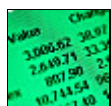


1345.4 - SA Stats, Apr 2007

Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 24/04/2007

Summary

Overview



In this issue of SA Stats

24/04/2007 | This issue of SA Stats focuses on employment in the retail trade industry in South Australia in 2005–06. This issue will also examine South Australia's reliance on River Murray water over the period 2000–01 to 2005–06 and review the River Murray water availability for South Australia for the 2006–07 year.



Demography

Includes: **Estimated Resident Population**

22/03/2007 | The estimated resident population (ERP) for South Australia was 1,558,200 at 30 September 2006, an increase of 13,400 persons (0.9%) since 30 September 2005.



State Accounts

Includes: **State Final Demand, Household Final Consumption Expenditure**

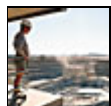
07/03/2007 | South Australia's December 2006 quarter State Final Demand in chain volume (trend) terms was \$16,757m and Australia's Domestic Final Demand was \$245,890m.



Consumption

Includes: **Retail Turnover, New Motor Vehicle Sales**

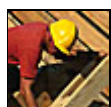
02/03/2007 | The January 2007 trend estimate for South Australia's retail turnover was \$1,329.8m, compared with the Australian total of \$18,570.7m.



Investment

Includes: **Private New Capital Expenditure, Mineral and Petroleum Exploration Expenditure**

06/03/2007 | Between the September 2006 and the December 2006 quarters, the South Australian chain volume (trend) estimate of private new capital expenditure decreased by 0.3% to \$1,140m.



Production

Includes: **Building Approvals**

06/03/2007 | In January 2007, the total number (in trend terms) of dwelling units approved in South Australia was 883. Nationally, the total number (in trend terms) of dwelling units approved was 12,214.



Prices

Includes: **Consumer Price Index (CPI)**

24/01/2007 | The all groups consumer price index (CPI) for Adelaide increased by 3.0% in the 12 months to December 2006, compared with a 3.3% rise in the weighted average of eight capital cities.



Labour Force

Includes: **Job Vacancies, Employed persons, Unemployment, Participation rate**

10/01/2007 | In original terms, South Australia's total number of job vacancies increased to about 9,400 in November 2006 from 9,000 in August 2006. The November 2006 vacancies were 8% higher than in November 2005.



Incomes

Includes: **Average Weekly Earnings**

22/02/2007 | The trend estimate of average weekly (ordinary time) earnings for full-time adult persons in South Australia has increased by 4.2% in the 12 months to November 2006 reaching \$997.30.



International Merchandise Trade

Includes: **Exports and Imports**

19/12/2006 | The value of South Australian merchandise exports (in original terms) was \$582m in January 2007 down 22.2% from \$748m in December 2006. The value of merchandise imports increased to \$604m in January 2007 from \$502m in December 2006.



Housing Finance

Includes: **Housing Finance Commitments**

12/03/2007 | The trend estimate of the total value of housing finance commitments (owner occupation) in South Australia has risen by 13.5% to \$912m in the 12 months to January 2007.



Environment

Includes: **Household waste management**

21/11/2006 | Almost all households in South Australia recycled waste (99%).

In this Issue of SA Stats



IN THIS ISSUE OF SA STATS

This issue of SA Stats will present two articles. The first article will focus on employment in the retail trade industry in South Australia in 2005–06. The second article will examine South Australia's reliance on River Murray water over the period 2000-01 to 2005-06 and review the River Murray water availability for South Australia for the 2006-07 year. .

Key points from the Employment in the Retail Trade Industry in South Australia article:

- In 2006, the retail trade industry accounted for 15% of average annual employment in South Australia.
- Employed South Australians aged 15–19 years make up 55% of average annual retail trade employment.
- Over one half (53%) of total employed South Australians in the retail trade industry were female.
- Nearly a quarter (24%) of the average, annual, total, part-time employment in South Australia was in the retail trade industry.
- The percentage of persons aged 65 or over who worked in the retail trade industry in South Australia increased by 6 percentage points from 1996 (7%) to 2006 (13%).
- Between 1996 and 2006, most of the growth in employment in the retail trade industry in South Australia was in part-time employment.

In the article, **Employment in the Retail Trade Industry in South Australia** data have been rounded to the nearest 100 for estimates and whole number for percentages. Other Explanatory Notes are not included in SA Stats in the form found in other ABS publications. Readers are directed to the Explanatory Notes contained in related ABS publications referenced in the feature article.

Key points from the River Murray - South Australia article:

- Irrigators and irrigation providers accounted for 80% of South Australian diversions of River Murray water over 2000–05.
- The 12 month period ending January 2007 was the driest experienced in the Murray-

Darling Basin (MDB) in the 115 years of historical inflow records.

- South Australia's minimum water entitlement flow for the 2006-07 year was reduced to 1,470 GL per annum, or 30% below the regular minimum of 1,850 GL.
- Allocations for South Australian irrigators were reduced to 60% of entitlements for the 2006-07 irrigation season. Opening irrigation allocations for the 2007-08 year would be zero, and improvement in allocations at the start of the irrigation season (end of spring) very much depend on rainfall in the MDB .

In the article, **River Murray - South Australia** data have been rounded. Other Explanatory Notes are not included in SA Stats in the form found in other ABS publications. Readers are directed to the related publications referenced in the feature article.

If you have any comments about this product please contact Lisa Moutzouris on ph: (08) 8237 7455 or alternatively e-mail sa.statistics@abs.gov.au.

Articles

Employment in the Retail Trade Industry

This issue of SA Stats focuses on employment in the retail trade industry in South Australia in 2005–06.

River Murray - South Australia

This issue of SA Stats will examine South Australia's reliance on River Murray water over the period 2000-01 to 2005-06 and review the River Murray water availability for South Australia for the 2006-07 year.

Index of Articles published in SA Stats

Provides a historical listing of articles that have been released as part of this product

Demography



DEMOGRAPHY

ESTIMATED RESIDENT POPULATION

The preliminary estimated resident population (ERP) for South Australia was 1,558,200 at 30 September 2006, an increase of 13,400 persons (0.9%) since 30 September 2005. This increase was slightly higher than that recorded for the 12 months ended 30 September 2005 (0.7%).

All states and territories recorded population growth over the 12 months ended 30 September 2006. Western Australia recorded the largest growth rate (2.0%) and Tasmania recorded the lowest growth rate (0.6%).

For the 12 months ending 30 September 2006, South Australia recorded a natural increase (i.e. net of births and deaths) of 6,160 persons. Net overseas migration provided a gain of 9,860 persons in the same period while net interstate migration realised a loss of 2,654

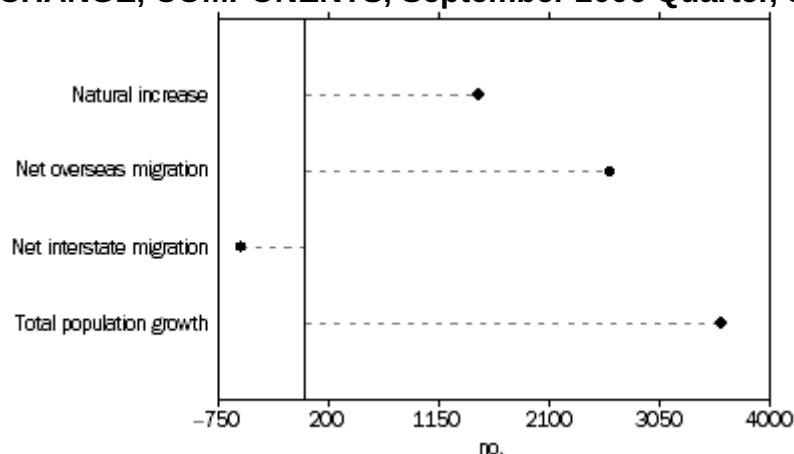
persons.

In the September 2006 quarter South Australia recorded net natural increase of 1,500 persons and a gain in net overseas migration of 2,626 persons. For every quarter since September 1986, with the exception of June 1993 (-217 persons) and June 1994 (-5), there has been a net overseas migration gain in South Australia's ERP. Net interstate migration in the September 2006 quarter resulted in a loss of 552 persons. Since September 1986, South Australia has only shown a net increase in population from interstate migration in 11 out of the 80 quarters, and 10 of these quarters occurred before March 1992.

Nationally, the preliminary estimated resident population (ERP) was 20,674,400 at 30 September 2006, an increase of 269,600 persons (1.3%) since 30 September 2005. The population growth rate for the year ended 30 September 2006 (1.3%) was about the same as that recorded for the year ended 30 September 2005 (1.3%). For the year ended 30 September 2006, Australia recorded a natural increase in population of 131,821 persons; net overseas migration resulted in a gain of 137,743 people.

In the September 2006 quarter Australia's population recorded a natural increase of 31,600 persons. The net overseas migration for Australia resulted in a gain of 37,350 persons.

POPULATION CHANGE, COMPONENTS, September 2006 Quarter, South Australia



Source: [Australian Demographic Statistics \(cat. no. 3101.0\)](#)

State Accounts



STATE ACCOUNTS

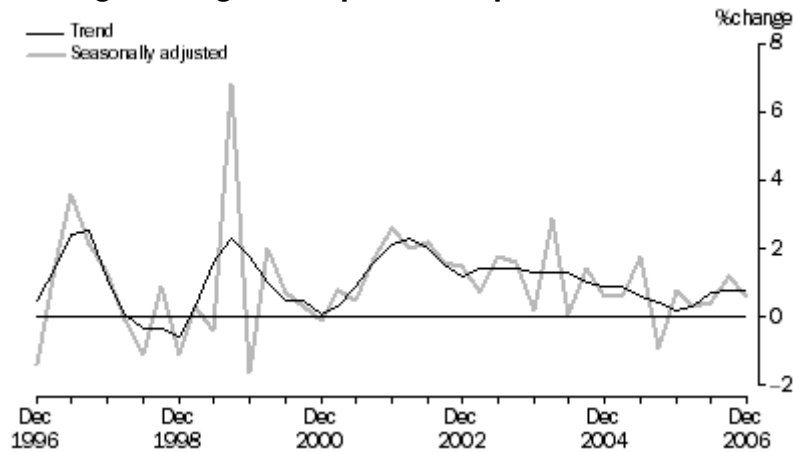
South Australia's December 2006 quarter State Final Demand in chain volume (trend) terms was \$16,757m and Australia's Domestic Final Demand was \$245,890m.

The 0.8% increase in South Australia's State Final Demand recorded for the December 2006 quarter was the same as the increase in the national Domestic Final Demand (0.8%). Of the other states and territories the strongest growth for the quarter was reported in Victoria (up 1.1%) and Western Australia (up 0.9%). State Final Demand for the quarter fell in the Northern Territory and Tasmania, by 0.9% and 0.4 % respectively.

In the December 1996 quarter South Australian State Final Demand comprised 7.0% of

Australian Domestic Final Demand; by the December 2006 quarter, the proportion had declined to 6.8%. The proportional contribution to the Australian Domestic Final Demand of New South Wales and Tasmania also decreased over this time period while that of the other states and territories increased.

STATE FINAL DEMAND, Chain volume measures, Percentage change from previous quarter, South Australia



Source: [Australian National Accounts \(cat. no. 5206.0\)](#)

HOUSEHOLD FINAL CONSUMPTION EXPENDITURE (HFCE)

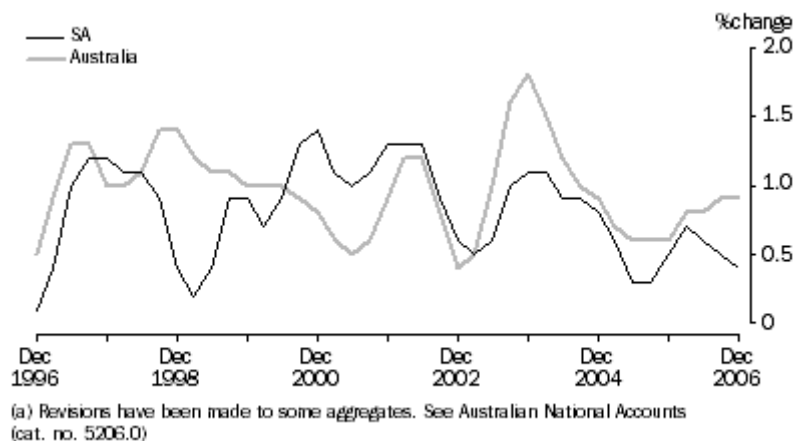
In chain volume (trend) terms, South Australia's December 2006 quarter HFCE was \$9,761m (7.1% of the national total of \$137,605m). This represented a 0.4% increase from the September 2006 quarter for South Australia and a 0.9% increase for Australia.

During the September 2006–December 2006 quarter, Furnishings and household equipment (up 3.5%) recorded the greatest increase in expenditure for South Australia, followed by Transport services (up 2.3%). For the same period, the greatest increases for Australia were in Transport services (up 2.9%) and Furnishings and household equipment (up 2.0%). Expenditure for the quarter on Purchase of vehicles recorded the greatest decrease for South Australia (down 2.0%) and Cigarettes and tobacco (down 0.4%) showed the greatest decrease for Australia.

The expenditure components which showed the largest increases for South Australia when comparing the December 2006 and December 2005 quarters were: Furnishings and household equipment (up 10.7% to \$560m); and Electricity, gas and other fuel (up 8.6% to \$303m). The expenditure components which showed the largest increase for Australia when comparing the December 2006 and December 2005 quarters were: Furnishings and household equipment (up 8.2% to \$8,121m); Transport services (up 7.7% to \$3,368m) and Clothing and footwear (up 6.6% to \$5,438m). Decreases in expenditure on Cigarettes and tobacco were recorded for both South Australia (a 6.8% decrease to \$178m) and Australia (a 6.0% decrease to \$2,308m).

Comparing December 2006 with December 1996, HFCE has increased 39.3% for South Australia and 47.7% for Australia.

HOUSEHOLD FINAL CONSUMPTION EXPENDITURE(a), Trend, Chain volume measures, Percentage change from previous quarter



Source: [Australian National Accounts \(cat. no. 5206.0\)](#)

Consumption

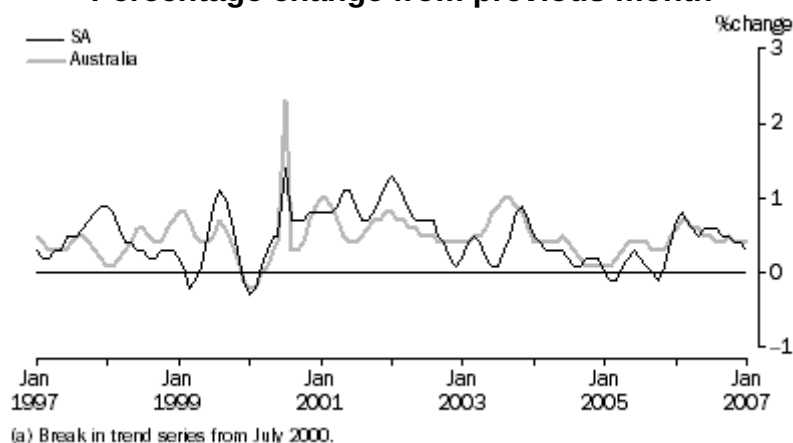


CONSUMPTION

RETAIL TURNOVER

The January 2007 trend estimate for South Australia's retail turnover was \$1,329.8m, compared with the Australian total of \$18,570.7m.

RETAIL TURNOVER(a), Current prices, Trend, Percentage change from previous month



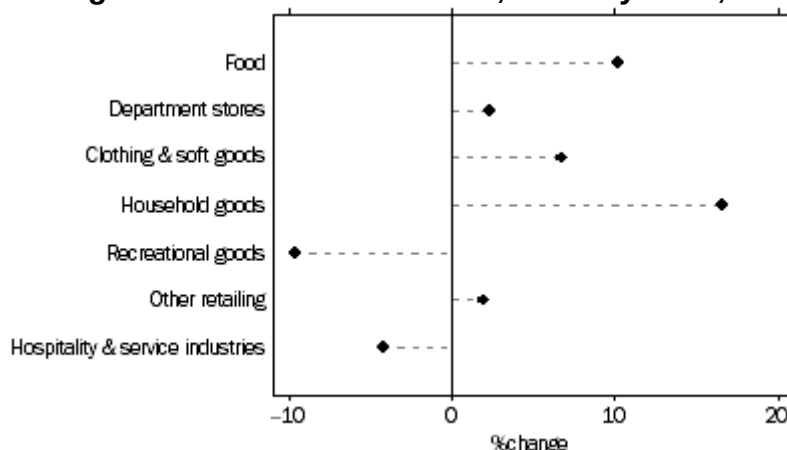
Source: [Retail Trade, Australia \(cat. no. 8501.0\)](#)

Comparing January 2007 with January 2006, retail turnover (trend) increased by 6.5% for South Australia and 6.3% for Australia.

Over the same period, the two South Australian industry groups with the largest percentage increases in retail turnover (trend) were Household goods, rising by 16.6% (\$192.1m), and Food, rising by 10.2% (\$596.5m). The South Australian industry group which reported the largest decrease in retail turnover (trend) was Recreational goods retailing, down by 9.6% to \$36.8m.

RETAIL TURNOVER BY INDUSTRY GROUP, Current prices, Trend,

Percentage change over last twelve months, January 2007, South Australia

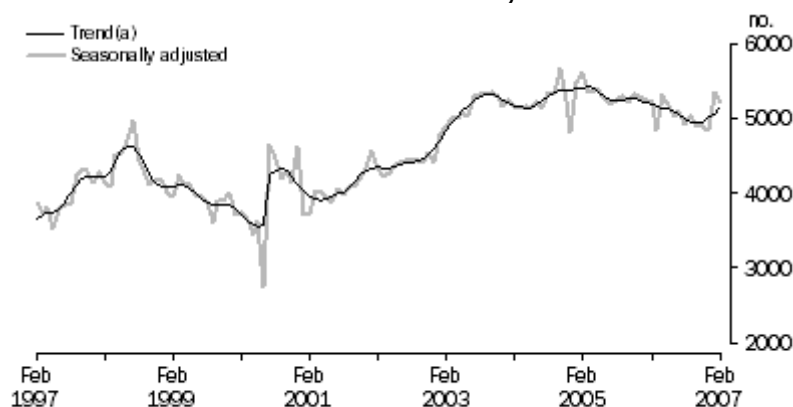


Source: Retail Trade, Australia (cat. no. 8501.0)

NEW MOTOR VEHICLE SALES

In February 2007, 3,410 new passenger vehicles and 5,189 vehicles in total (in trend terms) were sold in South Australia. Corresponding sales for Australia were 53,452 and 85,677.

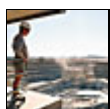
NEW MOTOR VEHICLE SALES, South Australia



(a) Break in trend series between June 2000 & July 2000 with introduction of the New Tax System

Source: Sales of New Motor Vehicles, Electronic Delivery, Feb. 2007 (cat. no. 9314.0.55.001)

Investment



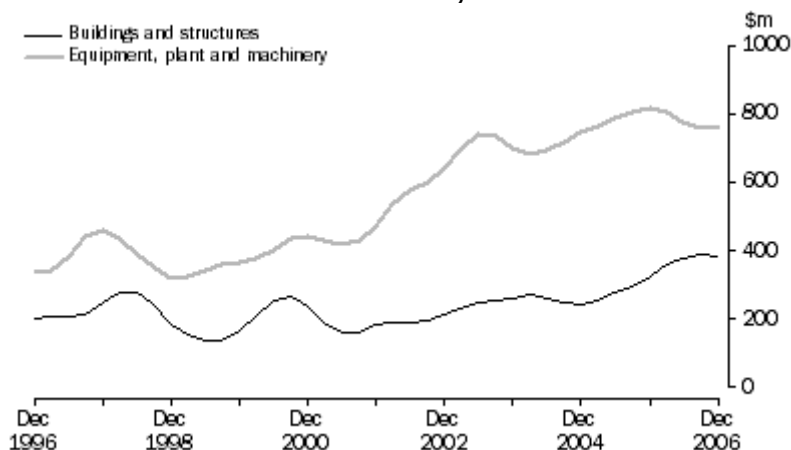
INVESTMENT

PRIVATE NEW CAPITAL EXPENDITURE

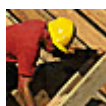
Between the September 2006 and the December 2006 quarters, the South Australian chain volume (trend) estimate of private new capital expenditure decreased by 0.3% to \$1,140m. Expenditure on equipment, plant and machinery remained unchanged at \$756m, while expenditure on buildings and structures decreased by 0.8% to \$384m. For the same period, private new capital expenditure for Australia decreased by 2.3% to \$17,814m.

Comparing the December 2006 quarter with the December 2005 quarter, South Australia's total private new capital expenditure did not change. Expenditure on equipment, plant and machinery fell by 7.5%; expenditure on buildings and structures grew by 19.3%. Nationally, total private new capital expenditure decreased by 0.1%.

PRIVATE NEW CAPITAL EXPENDITURE, Trend, Chain volume measures, South Australia



Production



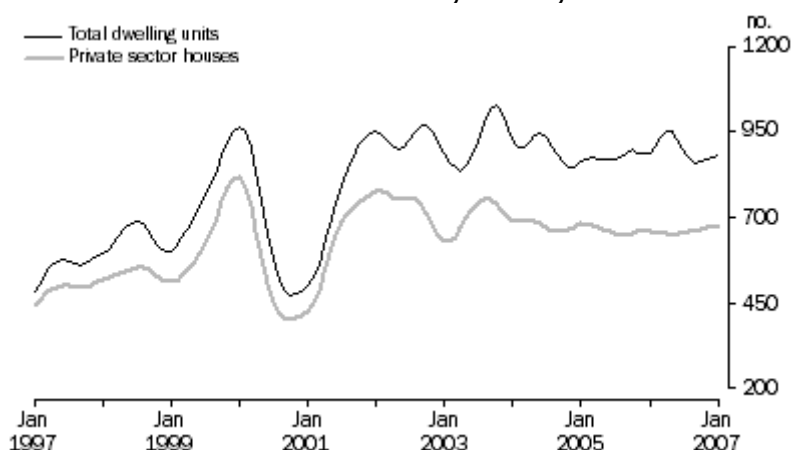
PRODUCTION

BUILDING APPROVALS

In January 2007, the total number (in trend terms) of dwelling units approved in South Australia was 883. This continues the steady recovery from September 2006 when approvals were at the lowest level (861) since December 2004 (847). Nationally, the total number (in trend terms) of dwelling units approved was 12,214. This was the lowest number of approvals since May 2001.

The trend estimate for South Australian private sector house approvals has risen for each of the last eight months to January 2007 (673 approvals).

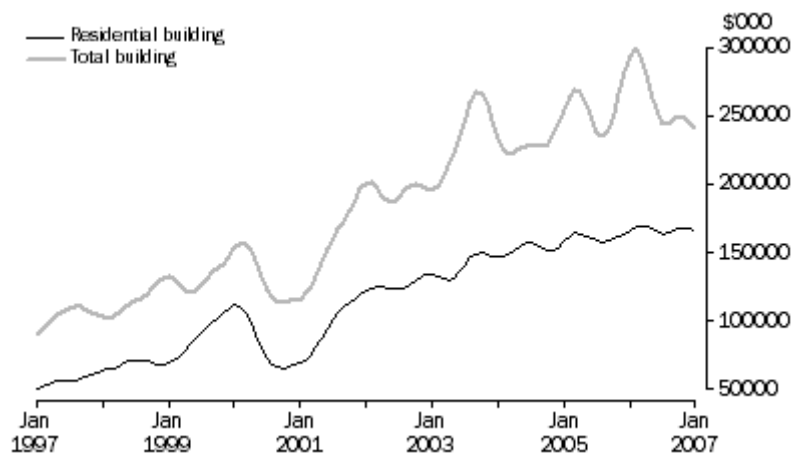
DWELLING UNITS APPROVED, Trend, South Australia



Source: [Building Approvals, Australia \(cat. no. 8731.0\)](#)

In January 2007, the total value (in trend terms) of building approvals was \$240.5m for South Australia and \$5,463.7m for Australia.

VALUE OF BUILDING APPROVED, Trend, South Australia



Source: [Building Approvals, Australia](#) (cat. no. 8731.0)

Prices

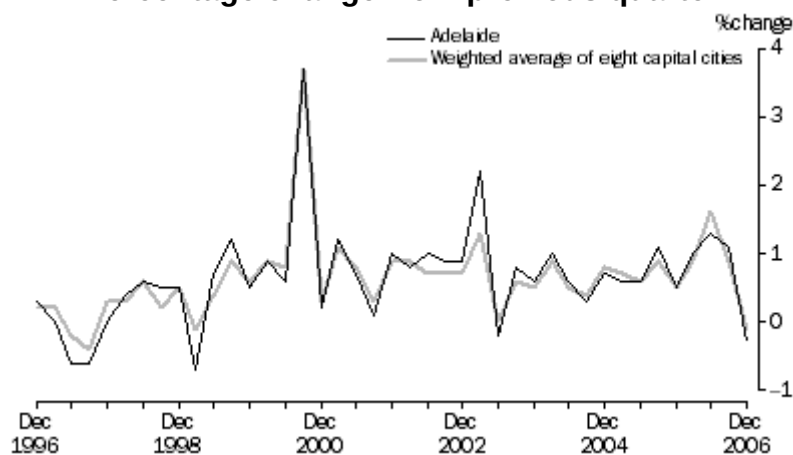


PRICES

CONSUMER PRICE INDEX

The all groups consumer price index (CPI) for Adelaide increased by 3.0% in the 12 months to December 2006, compared with a 3.3% rise in the weighted average of eight capital cities. Adelaide's CPI fell by 0.3% between the December and September quarters of 2006; for the same period, the weighted average of eight capital cities fell by 0.1%.

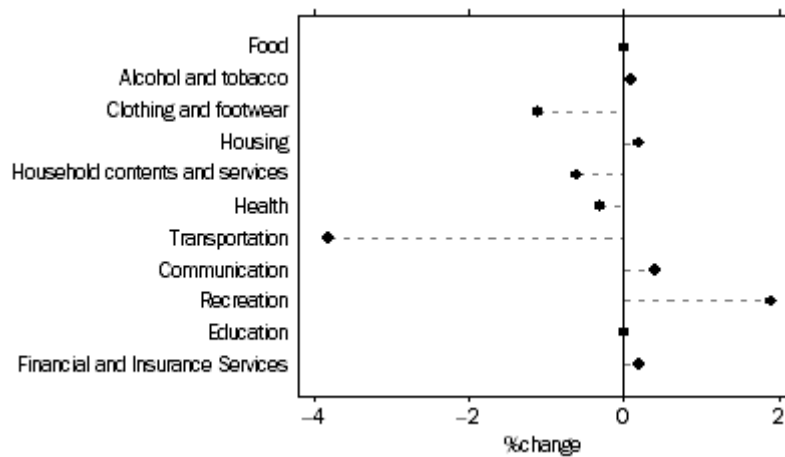
CONSUMER PRICE INDEX - ALL GROUPS, Original, Percentage change from previous quarter



Source: [Consumer Price Index, Australia](#) (cat. no. 6401.0)

In the December 2006 quarter, the categories with the largest percentage decreases (contributing to the overall CPI movement for Adelaide) were Transportation (3.8%); and Clothing and Footwear (1.1%). Recreation showed an increase of 1.9%.

CPI MOVEMENT, ADELAIDE, Original - DECEMBER 2006 QUARTER, Percentage change from previous quarter



Source: [Consumer Price Index, Australia \(cat. no. 6401.0\)](#)

Labour Force

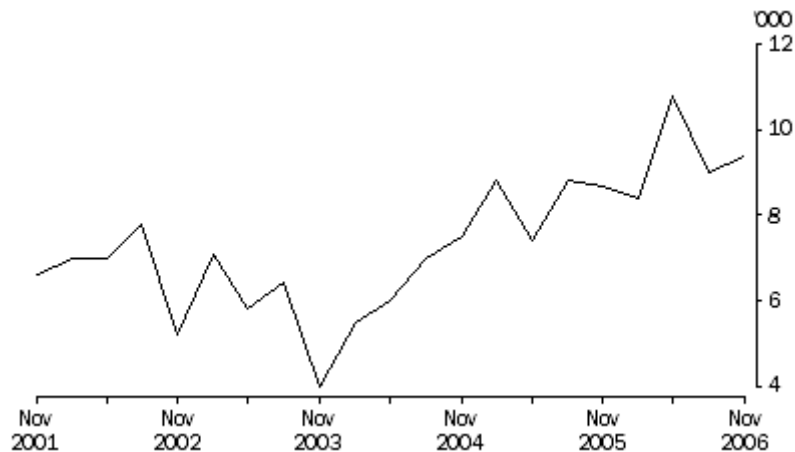


LABOUR FORCE

JOB VACANCIES

In original terms, South Australia's total number of job vacancies increased to about 9,400 in November 2006 from 9,000 in August 2006. The November 2006 vacancies were 8% higher than in November 2005.

JOB VACANCIES, Original, South Australia

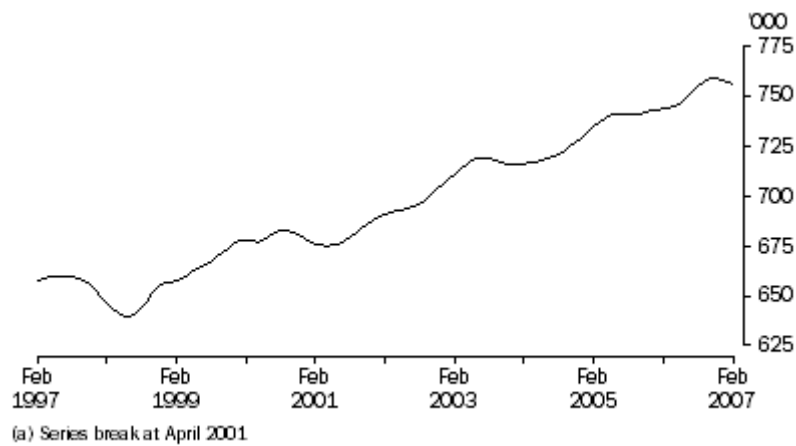


Source: [Job Vacancies, Australia \(cat. no. 6354.0\)](#)

EMPLOYED PERSONS

In trend terms, total employment in South Australia fell by 0.4% from a record high of about 759,200 persons in November 2006 to 756,300 persons in February 2007. Total employment in Australia, however, recorded a series high of about 10,350,400 persons in February 2007.

TOTAL EMPLOYED PERSONS(a), Trend, South Australia

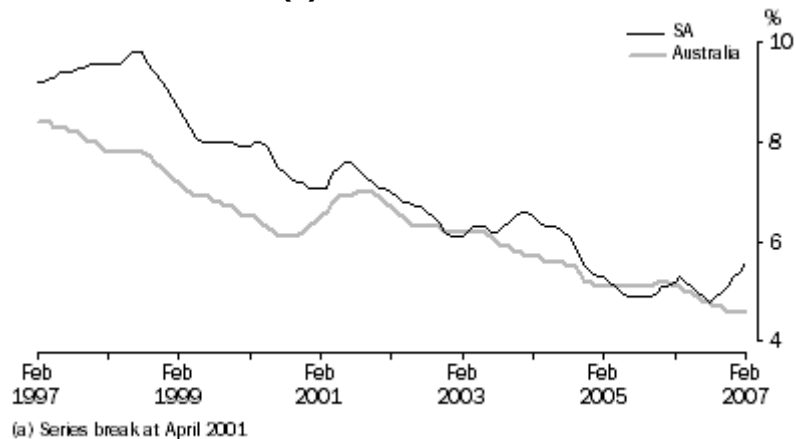


Source: [Labour Force, Australia](#) (cat. no. 6202.0)

UNEMPLOYMENT

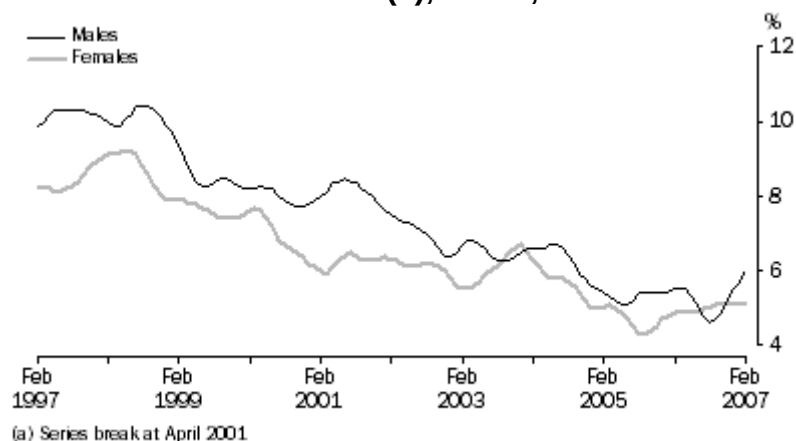
The trend estimate of the unemployment rate for South Australia rose in February 2007 to 5.6% after reaching a low of 4.8% in August 2006. Australia's unemployment rate remained steady at 4.6% for the four months to February 2007.

UNEMPLOYMENT RATE(a), Trend, South Australia and Australia



Source: [Labour Force, Australia](#) (cat. no. 6202.0)

UNEMPLOYMENT RATE(a), Trend, South Australia



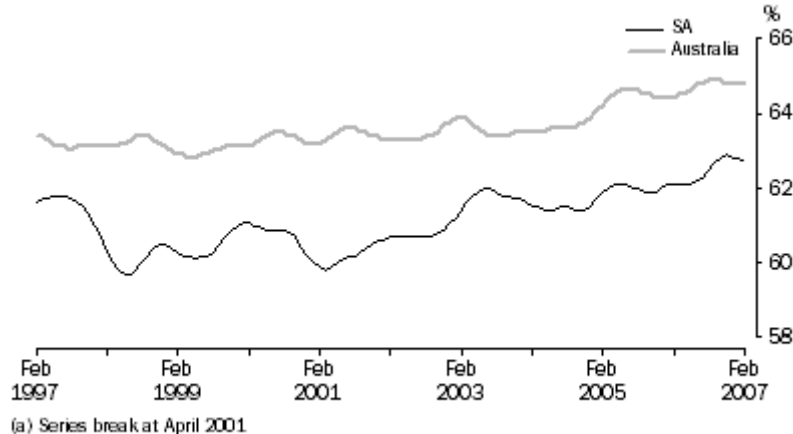
Source: [Labour Force, Australia](#) (cat. no. 6202.0)

For South Australia, the trend unemployment rate for females has remained steady at 5.1% since September 2006, after reaching a low of 4.3% in September 2005. In contrast, the unemployment rate for males has risen in from 4.7% in September 2006 to 6.0% in February 2007.

PARTICIPATION RATE

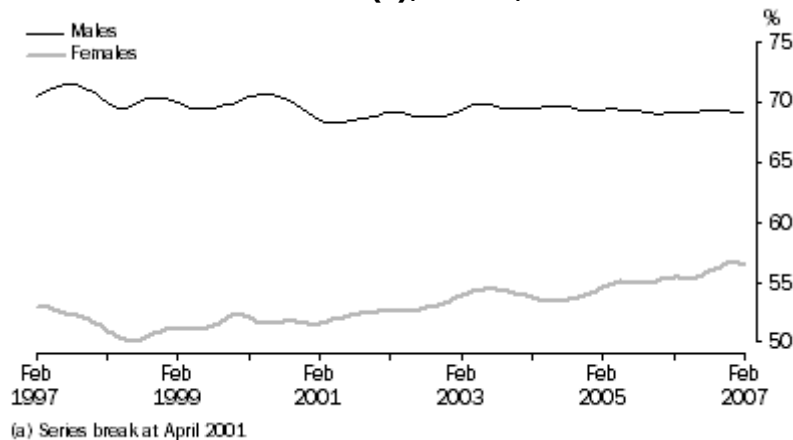
The trend estimate of the participation rate for South Australia fell slightly in February 2007 to 62.7% from 62.8%. South Australia's participation rate has remained at 62.0% or above since December 2005. In the ten year period from February 1997, the lowest estimate was 59.7% in May and June of 1998. Australia's trend participation rate remained steady at 64.8% for the four months to February 2007. The lowest participation rate reported for Australia was 62.8% in April and May of 1999; for May and June 1998 the Australian participation rates were estimated at 63.2% and 63.3% respectively.

PARTICIPATION RATE(a), Trend, South Australia and Australia



Source: [Labour Force, Australia \(cat. no. 6202.0\)](#)

PARTICIPATION RATE(a), Trend, South Australia



Source: [Labour Force, Australia \(cat. no. 6202.0\)](#)

For South Australia, the trend participation rate for females has remained above 56.0% since September 2006. The high point was 56.7% in December 2006, falling slightly to 56.6% in January 2007, and 56.5% in February 2007. Nationally the female participation rate has remained at 57.6% since October 2006. The participation rate for South Australian males has been steady at 69.0% or more since December 2002, reaching 69.9% in May and June of 2003 and falling to 69.1% in February 2007. The Australian participation rate for males has been consistently higher than that for South Australia, and was 72.3% in February 2007.

Incomes

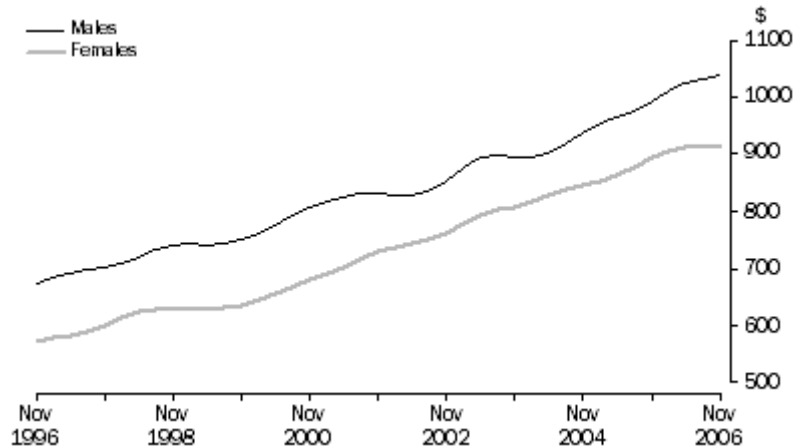


INCOMES

AVERAGE WEEKLY EARNINGS

The trend estimate of average weekly (ordinary time) earnings for full-time adult persons in South Australia has increased by 4.2% in the 12 months to November 2006 reaching \$997.30. Nationally, the corresponding increase was smaller at 3.0% (up to \$1,058.90).

AVERAGE WEEKLY EARNINGS, FULL-TIME ADULT ORDINARY, Trend, South Australia



Source: [Average Weekly Earnings, Australia \(cat. no. 6302.0\)](#)

For South Australia, the trend estimate of average weekly (ordinary time, full-time adult) earnings rose by 4.7% for males and 1.9% for females over the 12 months to November 2006.

The November 2006 female average weekly earnings (\$911.10) in South Australia were 87.8% of the corresponding male average weekly earnings (\$1,037.60), compared with 90.2% observed a year earlier (November 2005).

International Merchandise Trade



INTERNATIONAL MERCHANDISE TRADE

EXPORTS AND IMPORTS

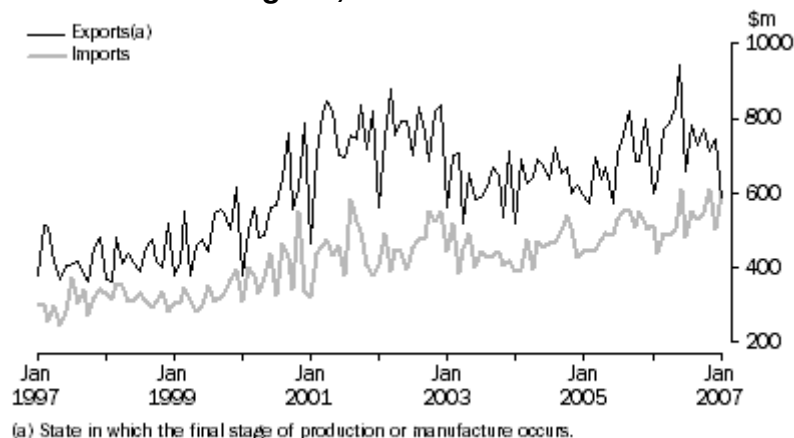
The value of South Australian merchandise exports (in original terms) was \$582m in January 2007 down 22.2% from \$748m in December 2006. This was a further decrease from the high of \$601m in January 2006. The decline between December 2006 and January 2007 was largely due to the value of exported Road vehicles, parts and accessories falling by \$158m (94.7%). Other commodities contributing to the decline were Wine exports which were down by \$27m (20.1%); Wool and sheepskins (down \$10m, 50.7%); and Machinery (down \$10m, 28.4%).

Australian exports also fell (by 12.8%) over this period. The main industries that contributed to the decrease in the value of Australian exports were Machinery and equipment

manufacturing (down \$567m, 39.4%), of which exports of passenger vehicles fell by \$188m (68.9%); Food, beverage and tobacco manufacturing down \$437m, 27.1%; Metal ore mining, down by \$486m, 19.4%; and Oil and gas extraction, \$239m (17.8%). The value of merchandise imports increased to \$604m in January 2007 from \$502m in December 2006; in January 2006 merchandise imports amounted to \$512m.

The month of January 2007 was exceptional, because the value of South Australia's imports exceeded the value of the State's exports, whereas for all periods from July 1996 to December 2006 the value of exports from South Australia had exceeded the value of imports. Nationally, for the same period, in most months, the value of imports has exceeded the value of exports.

VALUE OF MERCHANDISE EXPORTS AND IMPORTS, Original, South Australia



Source: [International Trade in Goods and Services, Australia](#) (cat. no. 5368.0)

Housing Finance

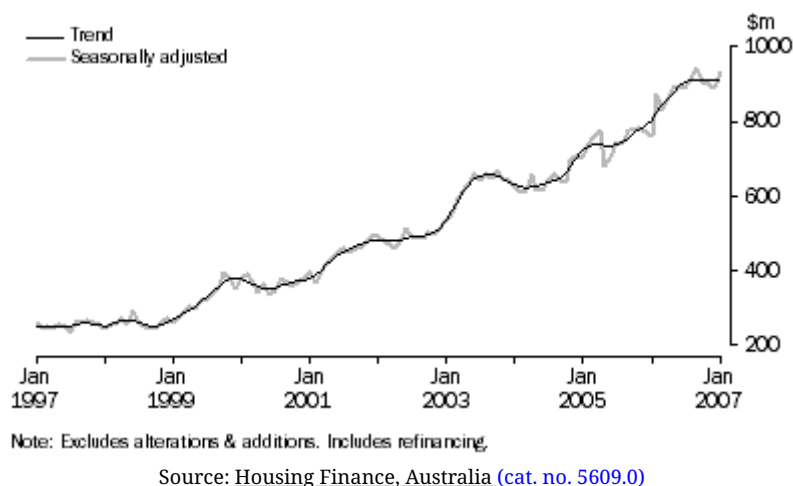


HOUSING FINANCE

HOUSING FINANCE COMMITMENTS

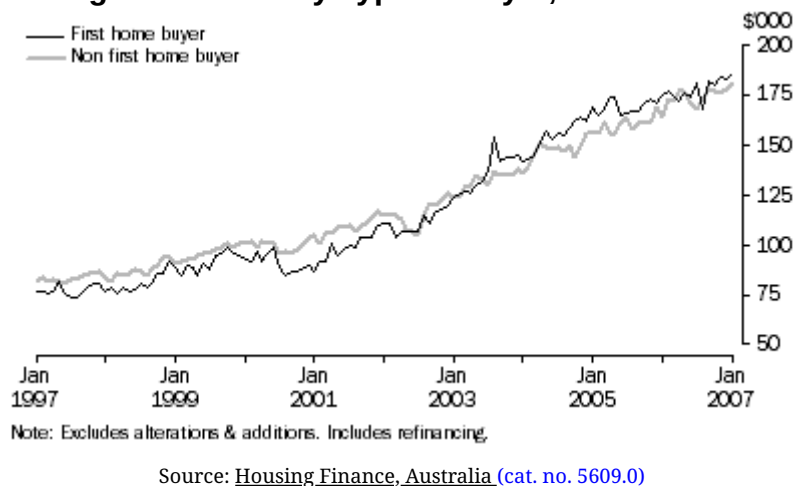
The trend estimate of the total value of housing finance commitments (owner occupation) in South Australia has risen by 13.5% to \$912m in the 12 months to January 2007. Nationally, for the same period, the increase was smaller at 7.6% (to a total of \$13,933m).

HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION), South Australia



Since January 1997, the average home loan commitment for owner occupied dwellings in South Australia has more than doubled from \$80,300 to \$182,000 in January 2007. Except for the months of April and May 2006, the average loan size for first home buyers has been greater than that for non-first home buyers since August 2003.

HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION), Original, Average Loan Size by Type of Buyer, South Australia



Environment



ENVIRONMENT - HOUSEHOLD WASTE MANAGEMENT IN SOUTH AUSTRALIA

INTRODUCTION

In 2002–03, each person in South Australia generated on average about 2.25 tonnes of waste, much higher than the 1.63 tonnes of waste estimated for each person in Australia ([DEWR 2006](#)). How we deal with the waste generated is an important issue facing both the state and Australia as a whole. This article looks into the various ways South Australian households manage and dispose of their waste. Data were sourced from a national household survey conducted by the ABS in March 2006 and results published in the ABS publication [Environmental issues: People's views and practices, March 2006, \(cat. no.](#)

4602.0). Information presented from this survey include household recycling and reuse of waste materials, the ways in which waste materials are recycled or reused, and the disposal of hazardous waste materials.

SUMMARY

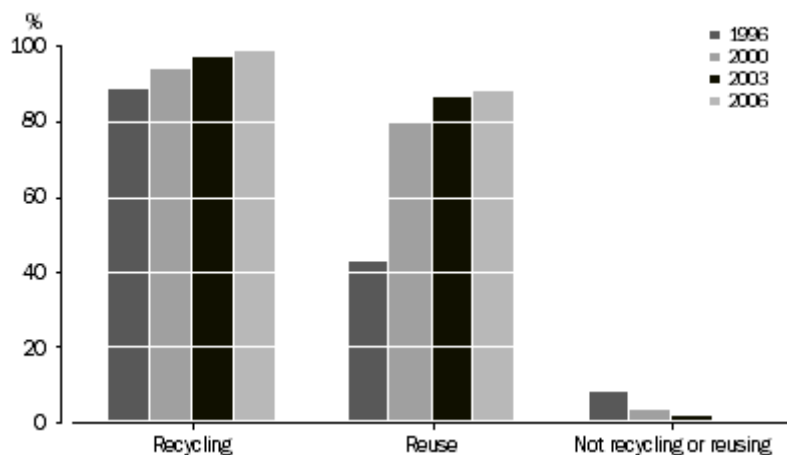
- Almost all households in South Australia recycled waste (99%).
- The waste materials recycled or reused by the highest proportion of South Australian households were plastic bottles (92%), glass (91%), plastic bags (89%) and paper/cardboard/newspapers (88%).
- The most common way that waste was recycled or reused by South Australian households was by reuse at home (88% of households that recycled/reused waste).
- A greater proportion of South Australian households that recycled waste used a central collection point other than a dump/waste transfer station (76%) than all Australian households (63%).
- The main reason why South Australian households did not recycle or reuse a particular waste was; they did not use enough materials to warrant recycling (88% of households that did not recycle/reuse waste).
- The item of hazardous waste disposed of by most South Australian households was household batteries; disposed of by 66% of households.
- Most of the hazardous waste materials generated by South Australian households are disposed of through the usual garbage collection (85%).
- Less than one third (32%) of South Australian households stated that they were aware of any services or facilities to dispose of hazardous waste.
- The main reason reported by South Australian households for not using hazard waste disposal services or facilities was that they did not generate enough hazardous waste to warrant use (55%).

RECYCLING AND REUSE OF WASTE BY HOUSEHOLDS

From 1996 to 2006, the proportion of South Australian households that recycled waste increased from 89% in 1996 to 99% in 2006, while those that had reused waste increased from 43% to 88% over this period. This is a similar picture to Australia as a whole, where the proportion of households that recycled increased from 88% in 1996 to 98% in 2006, and those that reused waste increased from 37% to 87% over this period.

Of the 640,500 households in South Australia in 2006, less than 1% neither recycled nor reused waste materials. This was a decrease from 8% of South Australian households in 1996. The proportion of Australian households that did not engage in these activities similarly decreased from 9% to 1% between 1996 and 2006.

HOUSEHOLD WASTE RECYCLING AND REUSE, South Australia



Source: Environmental issues: People's views and practices, March 2006 (cat. no. 4602.0)

In 2006, the proportion of South Australian households that recycled waste ranked third of all states and territories, behind the Australian Capital Territory (nearly 100%), and Victoria (99%). The proportion of South Australian households that reused waste ranked fourth of all states and territories, behind the Australian Capital Territory (93%), Queensland (92%) and Tasmania (92%).

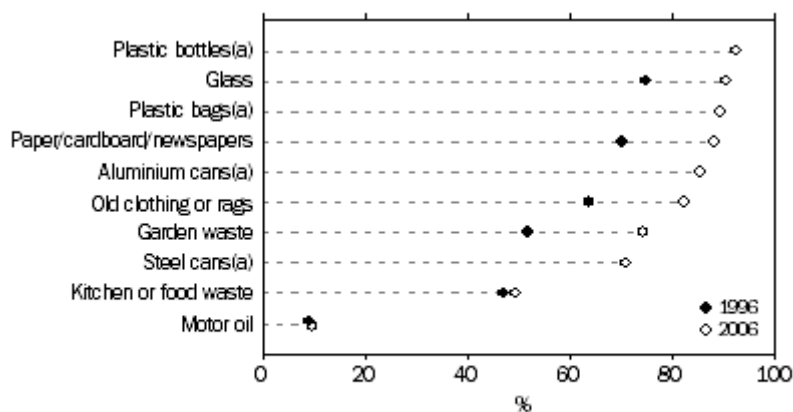
From 1996 to 2006, the level of participation in waste recycling or reuse by South Australian households increased for all types of waste materials surveyed.

WASTE MATERIALS RECYCLED OR REUSED

In 2006, the waste materials which were reported as recycled or reused by the highest proportion of South Australian households were plastic bottles (92%), glass (91%), plastic bags (89%) and paper/cardboard/newspapers (88%). The materials most reported as recycled or reused by Australian households were paper/cardboard/newspapers (92%), glass (90%), plastic bottles (90%) and plastic bags (89%). This is not surprising as these are materials that may be readily recycled through usual kerbside recycling services. It is estimated that this type of recycling service is available to about 90% of households in Australia (Environmental issues: People's views and practices, March 2006, (cat. no. 4602.0)).

While the recycling or reuse of garden waste by South Australian households has increased from 52% of households in 1996 to 74% in 2006, that of kitchen or food waste changed little over this period (from 47% to 49%). Over this period, recycling or reuse of garden waste by Australian households increased from 51% to 66% of households, while that of kitchen or food waste only increased from 45% to 48%.

WASTE MATERIALS RECYCLED/REUSED BY HOUSEHOLDS, South Australia —1996 and 2006



(a) No data available for 1996.

Sources: Environmental issues: People's views and practices, March 2006 (cat. no. 4602.0)

HOW HOUSEHOLDS RECYCLED OR REUSED WASTE

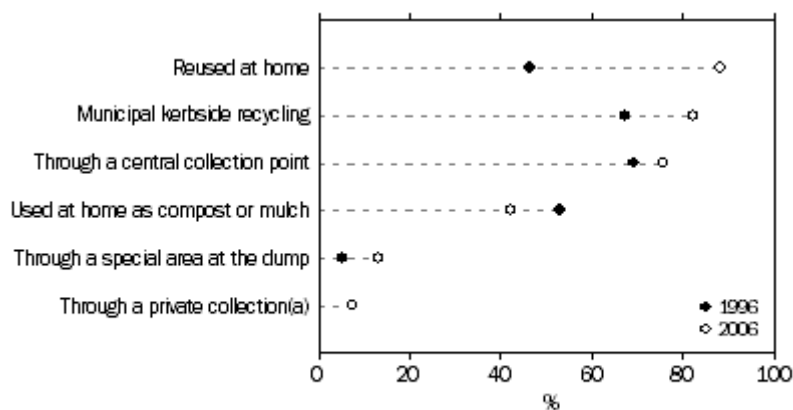
In 2006, the most common way that waste was recycled or reused by South Australian households was by reuse at home (88% of households that recycled/reused waste). This was also the most common way that waste was recycled for all Australian households (87%).

In 2006, municipal kerbside recycling was also used by the majority of South Australian households that recycled waste (82%), but this was less than that of Australian households (87%).

In 2006, a greater proportion of South Australian households that recycled waste used a central collection point other than a dump/waste transfer station (76%) than that of all Australian households (63%). In fact, recycling in this manner was more common by South Australian households than by households in any other state or territory, with the Australian Capital Territory ranking second (73%). This greater participation in recycling through a central collection point by South Australian households may be due to the refundable deposit available for drink bottles and cans.

An easy way for households to make a difference to the amount of waste sent to landfill is to compost their organic waste and use it in the garden. However, in 2006 only 42% of South Australian households that recycled or reused waste materials used waste at home as compost or mulch, less than that of all Australian households (46%). This is a decrease from 1996, where 53% of South Australian households and 54% of Australian households used waste as compost or mulch.

WAYS HOUSEHOLDS RECYCLE WASTE, South Australia



(a) No data available for 1996.

HOW DIFFERENT WASTE MATERIALS ARE RECYCLED OR REUSED

A type of waste material can be disposed of in a variety of ways. Often a particular type of waste is disposed of by more than one method. For example, a household may both reuse glass bottles at home as well as recycle glass bottles through their municipal kerbside recycling service. Table 1 shows the number of South Australian households that recycled or reused a waste material and compares the proportion that used a particular method to that of Australian households.

In 2006, the types of waste materials most commonly recycled or reused by South Australian households were plastic bottles, glass, plastic bags and paper/cardboard/newspapers. Of the households that recycled or reused plastic bottles (592,000), glass (580,500) or paper/cardboard/newspapers (564,200) in 2006, the most common method used to recycle these waste materials was kerbside recycling (71%, 77% and 88% respectively). In comparison, 90% of Australian households that recycled plastic bottles, 90% that recycled paper/cardboard/newspapers and 89% that recycled glass did so by using kerbside recycling in this period. Of the 571,800 South Australian households that recycled or reused plastic bags in 2006, 88% reused these at home, while only 9% recycled plastic bags through a central collection point that was not a dump or waste transfer station. In the same period, of the Australian households that recycled or reused plastic bags, 89% reused these at home, and even less (7%) recycled plastic bags through a central collection point that was not a dump or waste transfer station.

In 2006, of the South Australian households that recycled aluminium cans, 55% used kerbside recycling to do so, while 39% used a central collection point other than a dump or waste transfer station. In the same period, of the 81% of Australian households that recycled aluminium cans, 88% used kerbside recycling to do so, while only 7% used a central collection point other than the dump or waste transfer station.

In 2006, of the South Australian households that recycled or reused garden waste, 55% used municipal kerbside recycling to do so, while 43% reused it as compost or mulch. In comparison, of the Australian households that recycled or reused garden waste in 2006, just 33% used kerbside recycling to do so, while 57% reused it as compost or mulch in this period. It should be noted that not all municipal councils provide kerbside recycling services for garden waste.

While just under one half of South Australian households recycled or reused kitchen or food waste in 2006, the majority (57%) of households that did use it as compost or mulch, 27% reused it at home and 13% recycled it through kerbside recycling. In comparison, of the similar proportion of Australian households that recycled or reused kitchen or food waste in this period, a larger proportion (61%) used it as compost or mulch, 27% reused it at home and only 10% recycled it through kerbside recycling. Not all municipal councils provide kerbside recycling services for kitchen and food waste.

While proportionally fewer South Australian households than Australian households used kerbside recycling for plastic bottle (71% of South Australian households compared to 90% of Australian households), glass (77% compared to 89%) and aluminium cans (55% compared to 88%), this was balanced by proportionally more South Australian households using a central collection point other than a dump or waste transfer station to recycle plastic bottles (30% of South Australian households compared to 3% of Australian households), glass (17% compared to 2%) and aluminium cans (39% compared to 7%). This is consistent with the refundable deposit available for drink bottles and cans in South Australia which must be delivered to a central collection point for refund.

Proportionally more South Australian households (55%) than Australian households (33%) used kerbside recycling for garden waste. Conversely, proportionally more Australian households (57%) used compost or mulch to recycle garden waste than South Australian households (43%). Most South Australian metropolitan municipal councils provide kerbside recycling for garden waste.

TABLE 1: WASTE RECYCLED OR REUSED BY HOUSEHOLDS, By method(a), South Australia and Australia — March 2006

	Households that recycled (b)	Kerbside recycling		Private collection		Special area at dump/ waste transfer station	
	SA '000	SA %	Aust %	SA %	Aust %	SA %	Aust %
Plastic bottles	592	71	90	1	2	5	2
Glass	581	77	89	1	2	4	2
Plastic bags	572	10	11	1	1	0	1
Paper/cardboard/ newspapers	564	88	90	1	2	1	2
Aluminium cans	548	55	88	1	2	7	3
Old clothing or rags	527	2	1	*1	5	*1	6
Garden waste	477	55	33	4	5	2	6
Steel cans	455	92	94	*2	2	*1	1
Kitchen waste or food waste	317	13	10	2	5	0	0
Motor Oil	62	*4	3	*3	3	39	35

* estimate is subject to sampling variability too high for most practical purposes

n.a. not applicable

(a) More than one method of recycling or reusing may be specified for each product, so proportions do not add up to 100%.

(b) The total number of South Australian households that reported they had recycled or reused this waste material in 2006. The total number of South Australian households in 2006 was 640,500.

Source: [Environmental issues: People's views and practices, March 2006 \(cat. no. 4602.0\)](#)

TABLE 1 (cont.): WASTE RECYCLED OR REUSED BY HOUSEHOLDS, By method(a), South Australia and Australia — March 2006

	Households that recycled (b)	Central collection point (not dump/ waste transfer station)		Compost or mulch		Reused at home	
	SA '000	SA %	Aust %	SA %	Aust %	SA %	Aust %
Plastic bottles	592	30	3	n.a.	n.a.	7	10
Glass	581	17	2	n.a.	n.a.	17	17
Plastic bags	572	9	7	n.a.	n.a.	88	89
Paper/cardboard/ newspapers	564	6	2	4	5	15	13
Aluminium cans	548	39	7	n.a.	n.a.	*1	0
Old clothing or rags	527	71	69	n.a.	n.a.	48	41
Garden waste	477	*1	1	43	57	6	7
Steel cans	455	5	1			2	2

Kitchen waste or food waste	317	0	0	57	61	27	27
Motor Oil	62	25	23	n.a.	n.a.	17	28

* estimate is subject to sampling variability too high for most practical purposes

n.a. not applicable

(a) More than one method of recycling or reusing may be specified for each product, so proportions do not add up to 100%.

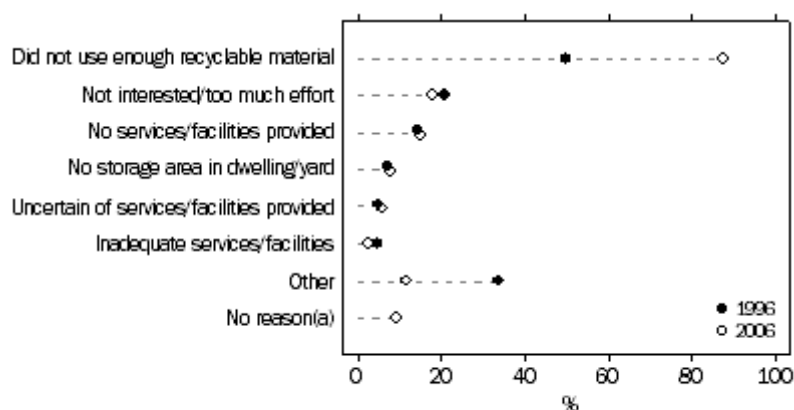
(b) The total number of South Australian households that reported they had recycled or reused this waste material in 2006. The total number of South Australian households in 2006 was 640,500.

Source: [Environmental issues: People's views and practices, March 2006 \(cat. no. 4602.0\)](#)

REASONS FOR NOT RECYCLING OR REUSING WASTE

The main reasons why South Australian households did not recycle or reuse a particular waste in 2006 were: they did not use enough materials to warrant recycling (88% of households that did not recycle/reuse waste), they were not interested or it was too much effort (18%) and no services or facilities were provided (15%), the same reasons cited nationally (86%, 17% and 16% respectively).

REASONS WHY HOUSEHOLDS DO NOT RECYCLE, South Australia



(a) No data available for 1996.

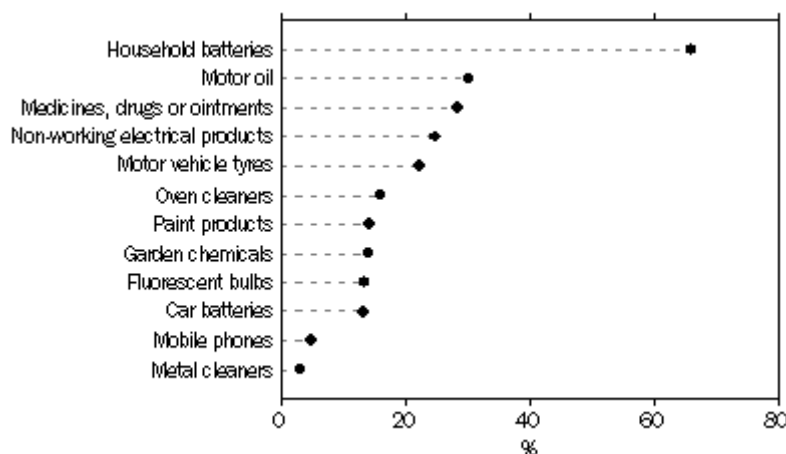
Sources: [Environmental issues: People's views and practices, March 2003 \(cat. no. 4602.0\)](#)

HAZARDOUS WASTE

Waste is 'hazardous' when it contains substances or has properties that make it harmful to human health or the environment. While in small quantities they may seem harmless, considerable quantities of these materials can end up being disposed of in landfills that are not designed to accept this type of waste. Hazardous wastes require careful management as they may be poisonous, corrosive, flammable, explosive or reactive.

South Australian households use a number of materials at home that can result in hazardous waste and these are mainly household batteries (disposed by 66% of household), motor oil (30%) and medicines, drugs or ointments (29%). Household batteries (66% of households), motor oil (35%), and medicines, drugs and ointments (30%) were also the hazardous wastes most disposed of by all households in Australia.

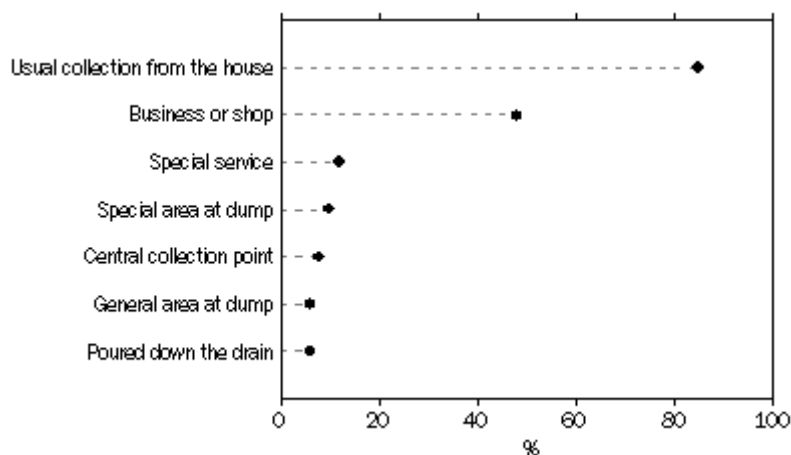
HAZARDOUS WASTE MATERIALS DISPOSED OF BY HOUSEHOLDS, South Australia



Source: Environmental issues: People's views and practices, March 2006 (cat. no. 4602.0)

Most of the hazardous waste materials generated by South Australian households are disposed of through the usual garbage collection from the house (85%). This was the same proportion as for all Australian households (85%).

WAYS HOUSEHOLDS DISPOSED OF BY HAZARDOUS WASTE, South Australia

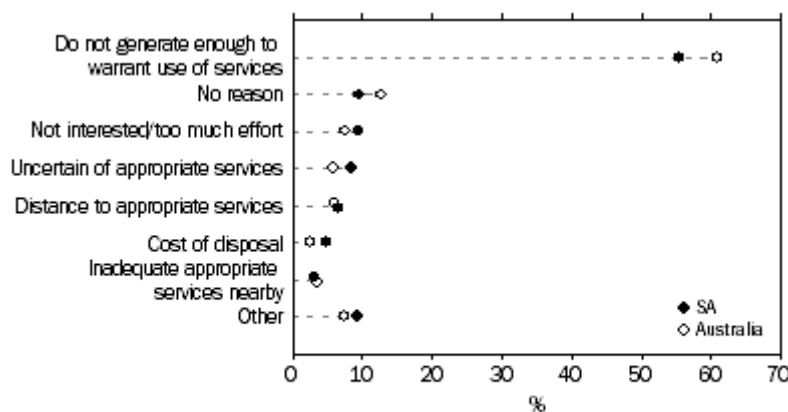


Source: Environmental issues: People's views and practices, March 2006 (cat. no. 4602.0)

When asked if they were aware of any services or facilities to dispose of hazardous waste, in 2006 less than one third (32%) of South Australian households stated that they were. This was the same proportion as for all Australian households (32%).

The primary reason reported by South Australian households for not using hazardous waste disposal services or facilities available in their local area was that they did not generate enough hazardous waste to warrant use (55%). This was also the primary reason reported by all households in Australia (61%). One tenth (10%) of South Australian households stated they had no reason for not using hazardous waste disposal services, while 9% reported they were not interested or it was too much effort as a reason. Australian households were similar, with slightly more reporting no reason for not using hazardous waste disposal services (13%), and slightly less reporting they were not interested or it too much effort (8%) as a reason.

REASONS DID NOT USE HAZARDOUS WASTE DISPOSAL SERVICES OR FACILITIES(a), Households—March 2006



(a) More than one reason may be specified by each household.

Source: Environmental issues: People's views and practices, March 2006 (cat. no. 4602.0)

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About this Release

An economic summary for South Australia is provided each quarter in the form of graphs and explanatory text. In the second and third months of each quarter one or more articles examine an area of specific interest to South Australia.

Replaces: 1307.4

Employment In The Retail Trade Industry In South Australia (Feature Article)

EMPLOYMENT IN THE RETAIL TRADE INDUSTRY IN SOUTH AUSTRALIA

Retail trade spans a variety of activities ranging from supermarket operations and food retailing through to the sale and repair of personal items, household goods and motor vehicles. It is a conspicuous employer of young people, and as such is a vital contributor to South Australia's economy.

This article sources data from Labour Force, Australia, Detailed, Quarterly Nov 2006 (ABS Cat. no. 6291.0.55.003). Employment has been examined in terms of average annual employment for both the retail trade industry and all industries. As the ABS Labour Force Survey collects industry details on a quarterly basis (every February, May, August and November), average annual total employment has been calculated by summing the four

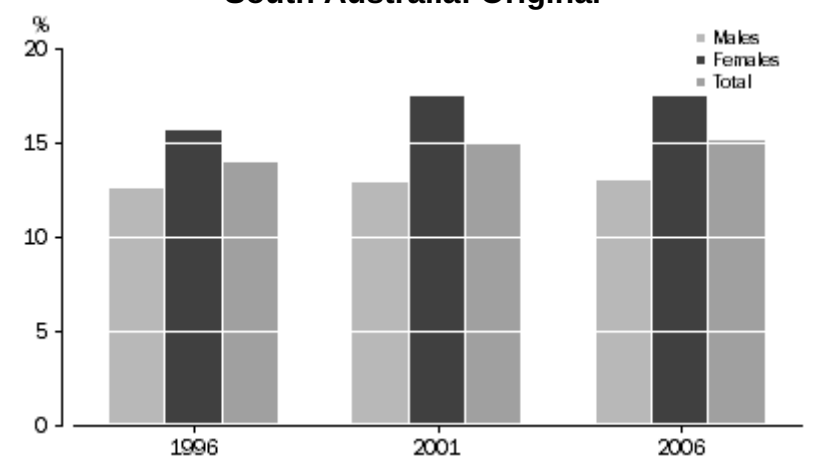
observations and dividing by four. This 'averaging' approach has been used to offset the seasonal volatility associated with some original series estimates of industry employment at the state level.

RETAIL TRADE AND ALL INDUSTRY EMPLOYMENT

In 2006, the retail trade industry accounted for 15% (or 112,900 persons) of average annual total employment (all industries) in South Australia. The retail trade industry also accounted for 15% (or 1,492,300 persons) of the average annual total employment (all industries) in Australia.

The following graph shows the progression, over time, in the proportion of average annual total employment that the retail trade industry accounted for.

AVERAGE ANNUAL EMPLOYMENT, Retail trade as a proportion of all industries, South Australia: Original



Source: Labour Force, Australia, Detailed, Quarterly, Nov 2006 (cat. no. 6291.0.55.003)

From a time-series perspective, retail trade industry employment in South Australia has increased steadily between 1996 and 2006. Retail trade industry employment in South Australia increased by 11% between 1996 and 2001 and another 11% between 2001 and 2006. Over the decade from 1996 to 2006 retail trade industry employment in South Australia increased by 24%.

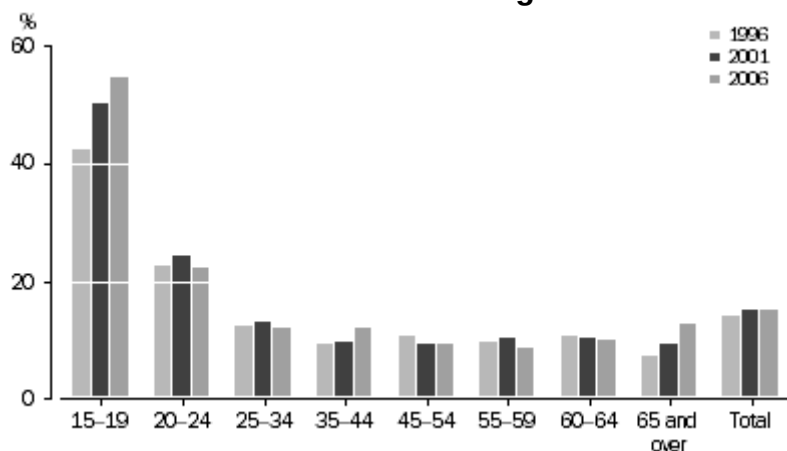
AGE PROFILE

The retail trade industry is a notable employer of young people. Considering average annual total employment of 15–19 year olds in South Australia in 2006, more than one half (55%) were employed in the retail trade industry. This was an increase of 13 percentage points from 1996, when 42% of all employed persons aged 15–19 years in South Australia were employed in this industry. Nationally, there were less persons aged 15–19 years employed in the retail trade industry in Australia (49%) in 2006 than in South Australia (55%). Furthermore – unlike South Australia – the proportion of employed 15–19 year olds that worked in the retail trade industry in Australia has changed little (from 49%) on average since 1996.

The following graph presents changes in the age composition of the South Australian retail trade industry employment, over 1996, 2001 and 2006. It can be seen that 20–24 year olds are also prominent within the industry. Interestingly, the percentage of persons aged 65 or over who worked in the retail trade industry increased by 6 percentage points from 1996

(7%) to 2006 (13%). Nationally, the proportion of those employed and aged 65 and over who worked in this industry Australia-wide decreased by 2 percentage points over this period, from 10% in 1996 to 8% in 2006.

AVERAGE ANNUAL EMPLOYMENT, Retail trade as a proportion of all industries, South Australia: Original



Source: [Labour Force, Australia, Detailed, Quarterly, Nov 2006](#) (cat. no. 6291.0.55.003)

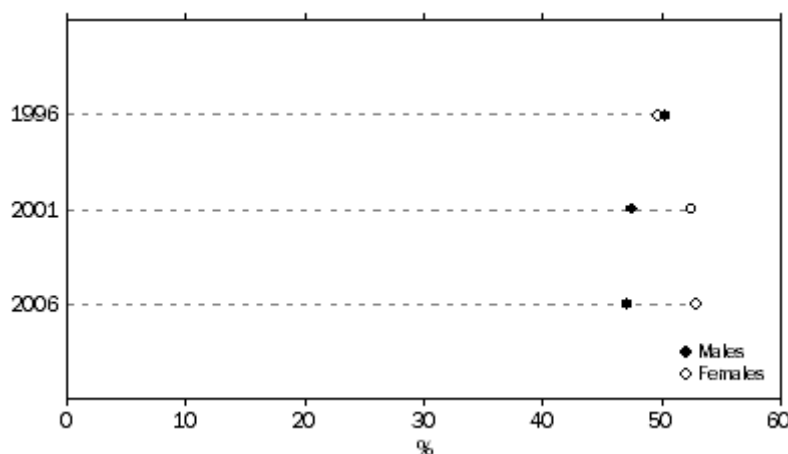
SEX

The labour force in Australia shows a higher participation rate for males than females aged 15 years and over across all occupations. However, the retail trade industry is characteristically a large employer of females, with nearly one fifth of all employed females working in the industry. In 2006, 59,700 females or 18% of average annual total female employment in South Australia worked in the retail trade industry. In contrast, 13% (53,200) of the average annual total male employment worked in this industry. Similar gender shares were observed nationally.

From another perspective, on average, just over one half (53%) of all persons employed in the retail trade industry in South Australia in 2006 were female, while just under one half (47%) were male. Again similar proportions were observed nationally.

As shown by the graph below, the female share of the average annual total retail trade industry employment in South Australia has risen from 50% to 53% in the decade to 2006 and the male share has decreased from 50% in 1996 to 47% in 2006.

AVERAGE ANNUAL EMPLOYMENT IN RETAIL TRADE, South Australia: Original



Source: [Labour Force, Australia, Detailed, Quarterly, Nov 2006](#) (cat. no. 6291.0.55.003)

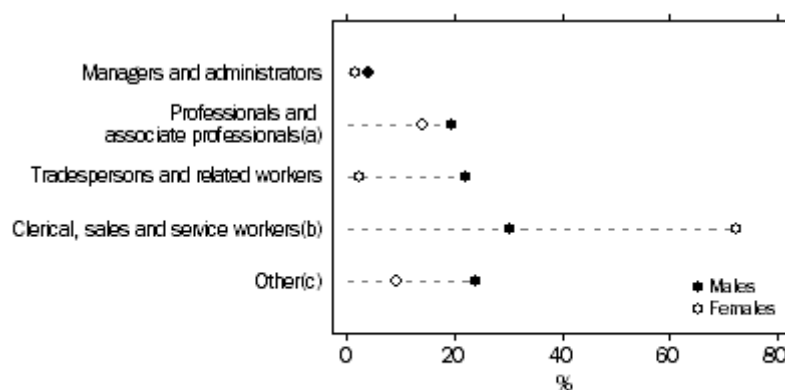
The proportion of SA females working in the retail trade industry – relative to all industry employment – has increased by 2 percentage points, from 16% to 18%, over the past decade. The proportion of males working in the retail trade industry has remained the same over the past decade.

OCCUPATION AND SEX

The most prominent occupation categories (using the Australian Standard Classification of Occupations (ASCO)) within the retail trade industry are the three 'clerical, sales and service' workers categories (a) – although the 'clerical' component may be less relevant in an industry primarily focused on the 'sales and service' aspects. Nonetheless, on average, nearly three quarters (73%) of females employed in the retail trade industry in South Australia in 2006 were clerical, sales and service workers, slightly higher than the national level (71%). In contrast, on average, nearly one third (30%) of males employed in the retail trade industry in South Australia had this occupation, lower than the national average of 33% of males.

While the proportion of managers and administrators in the retail trade industry is relatively small (compared with other industries), the proportion of males who worked in this occupation (within retail) in 2006 was more than double (4%) that of females (2%). Similar gender shares were observed nationally.

RETAIL TRADE, By occupation, South Australia–2006: Original



(a) Includes Professionals and Associate professionals.

(b) Includes Advanced clerical and service workers, Intermediate clerical, sales and service workers and Elementary clerical, sales and service workers.

(c) Includes Intermediate production and transport workers, and Labourers and related workers. a) Includes Professionals and Associate professionals.

Source: [Labour Force, Australia, Detailed, Quarterly, Nov 2006](#) (cat. no. 6291.0.55.003)

PART-TIME EMPLOYMENT

The retail trade industry employs a significant proportion of part-timers. These are people who usually work between 1 and 34 hours a week. In 2006, nearly one quarter (24%) of the average annual total part-time employment in South Australia was in the retail trade industry. A similar proportion (24%) was observed nationally.

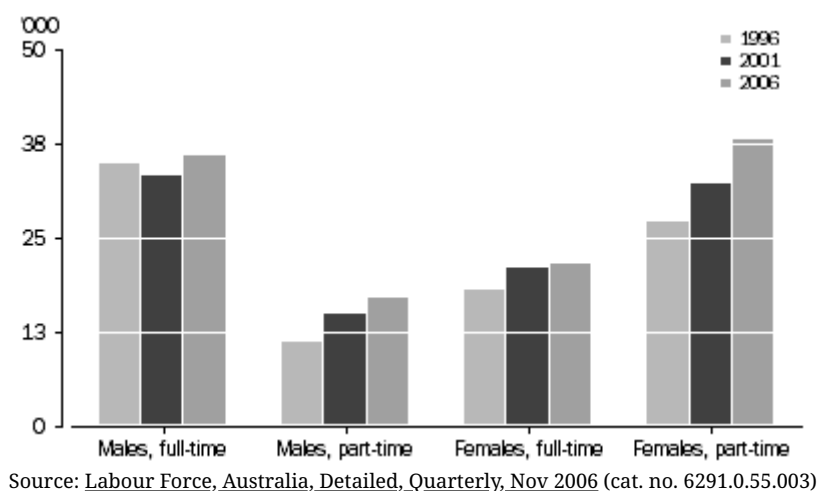
The contribution of the retail trade industry to overall state part-time employment has increased over the past decade. In terms of average annual total employment, a higher

proportion of persons who worked part-time were employed in the retail industry in 2006 (24%) than in 1996 (21%).

In gender terms, throughout 2006, a slightly larger proportion of the state's males that were employed part-time (26%) worked in the retail trade industry than part-time females (23%). The corresponding proportions for Australia were very similar: on average, 26% of all males employed part-time and 24% of females employed part-time worked in the retail trade industry.

The following graph presents a time series view of male and female retail trade industry employment, in part-time and full-time terms for South Australia. Full-time employment among males and females in South Australia remained steady across the 10 year period from 1996 to 2006. However, part-time employment figures show strong growth for females from 27,100 in 1996 to 38,200 in 2006; males also showed an increase from 11,200 to 17,100 within the same period.

AVERAGE ANNUAL EMPLOYMENT IN RETAIL TRADE, South Australia: Original



FINER INDUSTRY DETAIL

Industry data from the ABS Labour Force survey can be disaggregated into smaller segments (or subdivisions). For the retail trade industry these comprise the Food retailing industry (which includes supermarket and grocery stores and specialised food retailing), the Personal and Household Goods retailing industry (includes department stores, clothing and soft goods, furniture, houseware and appliances, recreational goods and other related items) and the Motor Vehicle retailing and services industry.

In annual average terms, the major contributor to the total retail trade industry employment in South Australia in 2006 was the Personal and Household Goods retailing industry (49,000, 44%) followed by the Food retailing industry (43,000, 38%), and the Motor Vehicle retailing and services industry (19,600, 17%). Similar proportions were observed nationally, at the industry subdivision level.

FOOTNOTES

(a) Includes 'Advanced Clerical and Sales Workers', 'Intermediate Clerical, Sales and Service Workers', and 'Elementary Clerical, Sales and Service Workers'. Back

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River Murray - South Australia (Feature Article)

RIVER MURRAY - SOUTH AUSTRALIA

INTRODUCTION

This article examines Adelaide's, and South Australia's, reliance on River Murray water for the period 2000-01 to 2005-06 within which the impact of a South Australian dry period (2002-03) can be studied. It is based on data sourced from the Murray Darling Basin Commission (MDBC) and much of the commentary consists of extracted quotes from the MDBC reports. The aim in bringing this information together in this way is to present a time series perspective on:

- annual proportions of water derived from the River Murray for SA Water customers;
- amounts of water diverted from the River Murray for all South Australian users;
- water storage at the beginning of summer in Murray-Darling Basin reservoirs for the years 2000-01 to 2006-07; and
- the effects of a long-term drought in the Basin.

A more detailed review of the status of River Murray water availability for South Australia is provided for the current 'drought year' (latter half of 2006 and the beginning of 2007 (the 2006-07 year)).

The six aspects of River Murray water considered in this article are the:

- South Australian water diversions from the River Murray;
- Murray-Darling Basin rainfall and inflows;
- water storage;
- River Murray entitlement flows for South Australia;
- Cap and River Murray water allocations for South Australia; and
- outlook for the future.

BACKGROUND

Rainfall in the cooler winter-spring seasons provides the main inflows into South Australia's reservoir catchment areas. The winter-spring period of 2006 was the driest on record experienced in South Australia (and Adelaide), resulting in Adelaide's reservoir levels being very low at the commencement of summer.

Adelaide's water supply is supplemented by water diverted from the River Murray. About 40-45% of the annual delivery of water to SA Water customers is derived from the River. Under drought conditions SA Water's reservoir shortfalls are overcome by increasing the amount of water extracted from the River Murray.

In addition, considerable quantities of the River Murray's water are diverted by: irrigators in

the Lower Murray Swamps (which lie between Wellington and Mannum) and the higher lands; pastoralists; industries; households and environmental requirements in South Australia's Murray Valley.

SOUTH AUSTRALIAN WATER DIVERSIONS FROM THE RIVER MURRAY

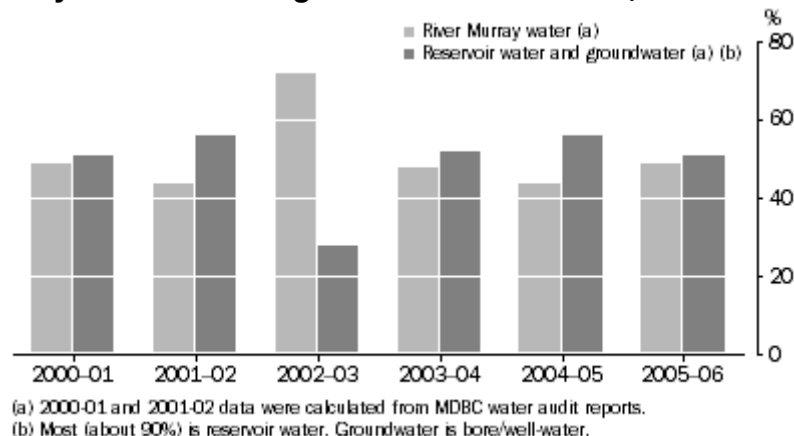
Diversions for the Adelaide metropolitan area and country centres

Graph 1 shows the relative amounts of River Murray and reservoir and ground-water delivered by SA Water to the Adelaide metropolitan area and country centres for the period 2000-01 to 2005-06. River Murray diversions by type of user over the period 2000-01 to 2005-06 are shown in Graph 2.

In the dry 2002-03 period, lower annual inflows to the local reservoir catchments in the Mount Lofty Ranges resulted in an increased demand for water from the River Murray with 72% of the water delivered by SA Water in this period obtained from this source (Graph 1). Furthermore the 2002-03 summer had a large number of days with temperatures in excess of 32°C, which contributed to an increased demand for water by SA Water's customers (SA Water, Annual Report 2002-03). In 2002-03, 282 GL of water were delivered by SA Water, compared with 266 GL in 2001-02 and 246 GL in 2003-4.

SA Water's River Murray water diversions to South Australian metropolitan area and country towns users in 2002-03 amounted to 204 GL; in 2001-02 the volume of diversion was 118 GL, and 117 GL in 2003-04 (Graph 2). The average annual diversions for the metropolitan area and country towns users for the five years 2000-01 to 2004-05 was 138 GL per year.

Graph 1. WATER DELIVERED BY SA WATER, proportions of water derived from the River Murray and reservoir/ground-water sources, 2000-01 to 2005-06



Sources: [SA WATER, Annual Reports, Operations Overview](#)
[Murray-Darling Basin Commission, Annual Water Audit Monitoring Reports, Table 2](#)

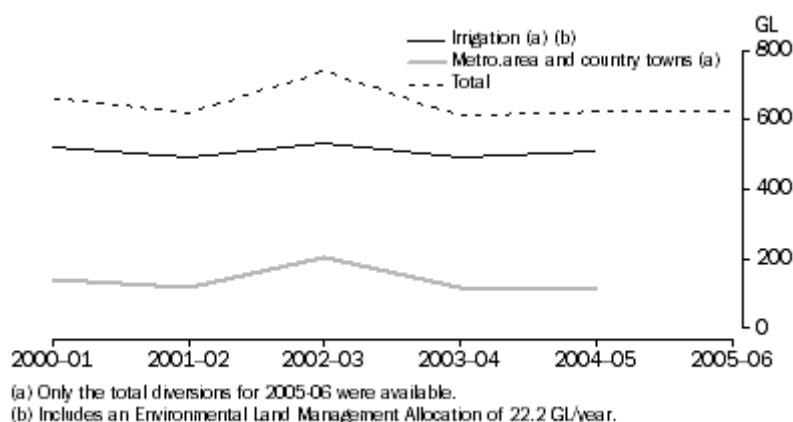
In South Australia's dry year of 2002-03, about 64% of water diverted by all states and territories for predominantly mains distribution was extracted by South Australia; in 2001-02 and 2003-04 the proportions were 40% and 49% respectively (Graph 1).

Irrigators

Irrigators (and irrigation water providers) in the Lower Murray Swamps and in the higher ground of the Murray Valley accounted for approximately 80% of the South Australian diversions of River Murray water over the period 2000-01 to 2004-05 [MDBC, Annual Water Audit Monitoring Reports, Table 2](#). For the dry period 2002-03, the estimated diversions were 531 GL; the 2001-02 and 2003-04 diversions were 494 GL and 490 GL respectively. The average

annual diversion for irrigation usage for the five years 2000-01 to 2004-05 was 508 GL per year. The irrigation diversions include an Environmental Land Management Allocation for the Lower Murray Swamps of 22.2 GL/year.

Graph 2. WATER DIVERTED FROM THE RIVER MURRAY TO SOUTH AUSTRALIAN USERS, 2000-01 TO 2005-06.



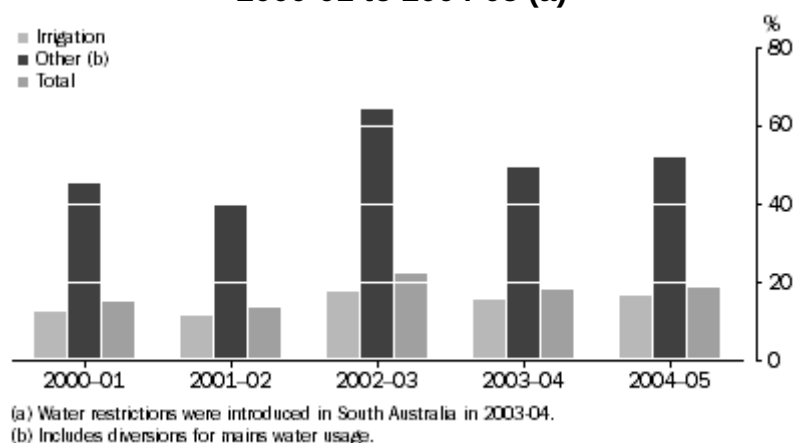
Source: Murray-Darling Basin Commission, Annual Water Audit Monitoring Reports, Table 2

In terms of the total irrigation diversions from the River Murray, South Australian irrigators accounted for 16% of these water diversions in 2004-05. In South Australia's dry year of 2002-03, the proportion was 18%; in 2001-02 and 2003-04 the proportions were 12% and 16% respectively (Graph 3).

Total diversions

In 2002-03, all South Australian diversions amounted to about 22% (737 GL from 3,317 GL) of the total water extracted from the River Murray; in 2001-02 this proportion was about 15% (662 GL from 4,388 GL), and in 2003-04 it was 18% (612 GL from 3,366 GL) (Graph 3).

Graph 3. SOUTH AUSTRALIA'S SHARE OF RIVER MURRAY DIVERSIONS, by purpose, 2000-01 to 2004-05 (a)



Source: Murray-Darling Basin Commission, Annual Water Audit Monitoring Reports, Table 2

Conditions of low rainfall and reduced reservoir levels necessitate increasing the amounts of water diverted from the River Murray to meet South Australia's water demand. When available, a temporary increase in demand from South Australia can be readily accommodated from the River Murray. However, the Murray-Darling Basin (MDB) is suffering its sixth consecutive year of drought and water storage in the basin's reservoirs has been seriously reduced MDBC, River Murray System - Drought Update July 2006.

MURRAY-DARLING BASIN RAINFALL AND INFLOWS

The Murray-Darling Basin Commission (MDBC) reported in July 2006 [MDBC, River Murray System - Drought Update July 2006](#) that the River Murray system is entering its sixth consecutive year of drought. Over the five years from July 2001 to June 2006 average inflows to the River Murray system were 4,800 GL/yr, which is about 40% of the long-term average of 11,200 GL/yr.

From January 2006 through to early 2007, the MDBC reported

- January to July 2006 was an exceptionally dry period, with large areas of the Murray-Darling Basin (MDB) experiencing record low rainfall.
- Very little rain was recorded over August and September of 2006 [MDBC, River Murray System - Drought Update, September 2006](#).
- Rainfall over the MDB in October 2006 was the lowest on record, providing only 70 GL inflow to the river systems; the previous lowest October inflow was 135 GL in 1914 [MDBC, Archives, Report for the week ending Wednesday 1 November 2006](#).
- November rainfall was close to average across large areas of the basin, but there was no significant increase in inflows to the River Murray system; total inflow for November was 55 GL which was slightly below the previous lowest of 57 GL in 1914 [MDBC, Report for the week ending Wednesday 29 November 2006](#).
- Very little rain was recorded in the upper (and normally higher inflow yielding) parts of the MDB in December 2006 and January 2007, and ground-water inflows to creeks and rivers had virtually dried up [MDBC, River Murray System - Drought Update No. 6, February 2007](#).
- For the eight months 1 June 2006 to 30 January 2007 inflows were 660 GL, which is 60% of the previously recorded minimum of 1,170 GL in 1983, and only 9% of the long-term average of 8,000 GL [MDBC, River Murray System - Drought Update No. 6, February 2007](#).
- Inflows of 30 GL in January 2007 were at an historic record low (for any month), following on inflows of 34 GL in December 2006.
- Overall, the 12 month period ending January 2007 is the driest experienced in the MDB in 115 years of historical inflow records.
- Thunderstorms during February 2007 brought much needed rain to many parts of the MDB, but inflows to the River Murray System were still very low (about 35 GL, which was a record low for February). The main advantage of these rains was to "wet up" the catchment areas to aid run-off in the long term [MDBC, Report for the week ending Wednesday 28 February 2007](#).
- Rainfall in March 2007 was about average across the southern part of the MDB, but total inflows to the River Murray System was very low (48 GL) for that month; the previous minimum inflow for March was 54 GL in 1915.

Extreme conditions have also affected the Snowy Mountains:

- Inflows to Snowy Hydro have also been at record low levels and storage levels in the Snowy Scheme are the lowest ever.
- Releases from the scheme to the River Murray System will be below target over the remainder of 2006-07 and possibly into 2007-08 [MDBC, River Murray System - Drought Update No. 5, December 2006](#).

WATER STORAGE

The long term average total monthly storage in MDBC reservoirs fluctuates between peaks

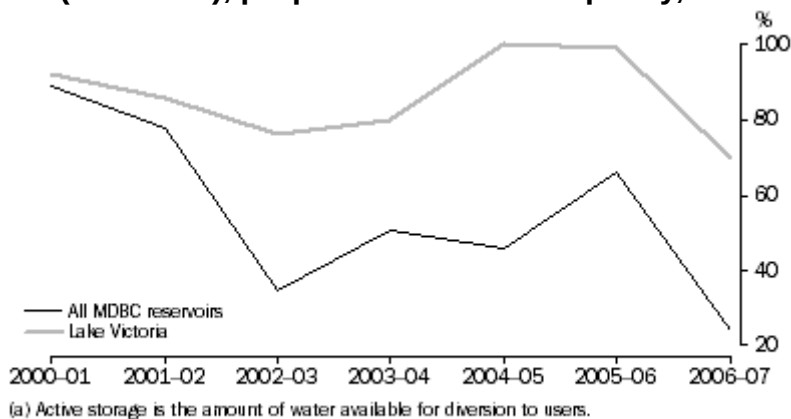
of about 75% capacity at the end of June (start of July), and troughs of about 55% capacity at the end of December (beginning of January) MDBC, River Murray System - Drought Update No. 5, December 2006, Figure 3. Approximately 98% of the total storage capacity is active storage, that is, water which can be distributed to users; the residual 2% is known as dead storage.

River Murray water demand tends to be highest during the summer months, largely because the irrigation season extends from the start of November until mid-May. The proportions of active water storage capacity in the MDBC reservoirs at the start of summer (the first week in December) are shown in Graph 4.

Of particular interest are the levels of Lake Victoria which is located downstream of the major demands and channel capacity constraints in the River Murray. South Australia's flow of River Murray water is set by releases from Lake Victoria. This means that during periods of peak demand, water can be released from the Lake to continue to supply flows to South Australia. Lake Victoria plays a strategic role in helping the Murray-Darling Basin Commission meet its responsibilities to deliver a uniform water supply to South Australia in accordance with its water entitlements defined in the Murray-Darling Basin Agreement MDBC, River Murray Water, Lake Victoria.

Of the total 677 GL capacity of Lake Victoria, 577 GL, or about 85%, is active storage. Lake Victoria active storage is seen to have been maintained at relatively high levels (generally greater than 75% of active storage capacity) regardless of the depletion of other reservoirs during drought conditions. For example, at the beginning of December 2002 (the start of the 2002-03 summer), Lake Victoria active storage was at 76% capacity, while active storage for all MDBC reservoirs was at 35% capacity. At the beginning of the 2006-07 summer, after prolonged drought in the MDB, Lake Victoria's active holdings were at 70% of capacity, with combined MDBC reservoirs at 23% capacity.

Graph 4. ACTIVE (a) WATER STORAGE IN MDBC RESERVOIRS AT THE BEGINNING OF DECEMBER (SUMMER), proportion of active capacity, 2000-01 to 2006-07.

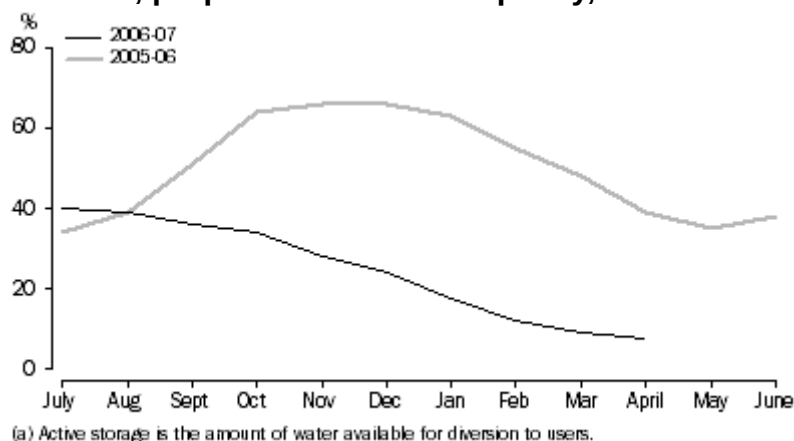


Source: MDBC, Natural Resource Management, Archived Weekly Reports

Active water storage levels of MDBC reservoirs at the first Wednesday of each month are expressed as proportions of active capacity in Graph 5. Graph 6 shows the same information for Lake Victoria.

At the beginning of 2006-07 (July 2006), active water storage levels in the main MDBC reservoirs (Dartmouth Reservoir, Hume Reservoir, Lake Victoria and Menindee Lakes) were higher than one year earlier (Graph 5), but the failure of winter/spring rains and record low inflows in the MDB brought rapidly falling storage levels. The rate of fall in storage levels over the 2006 winter/spring period was similar to that seen in the 2002-03 drought MDBC, River Murray System Operational Update December 2006.

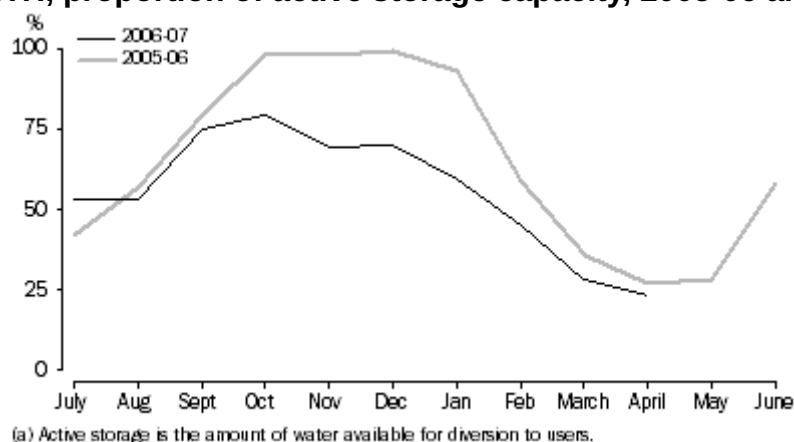
Graph 5. ACTIVE (a) WATER STORAGE IN MDBC RESERVOIRS AT THE BEGINNING OF THE MONTH, proportion of active capacity, 2005-06 and 2006-07



Source: [MDBC, Natural Resource Management, Archived Weekly Reports](#)

At the beginning of 2006-07 (July 2006), active water storage levels in Lake Victoria were higher than one year earlier (Graph 6). However, for the ten months from June 2006 to March 2007 when inflows to the River Murray had been at record lows, the upstream availability of water for the lake declined. Combined MDBC reservoirs were at 8% of active capacity at the beginning of April 2007 while Lake Victoria was at about 23% active capacity; correspondingly, at the beginning of April 2006, active storage for all MDBC reservoirs was 39%, and Lake Victoria was at 27%.

Graph 6. ACTIVE (a) WATER STORAGE IN LAKE VICTORIA AT THE BEGINNING OF THE MONTH, proportion of active storage capacity, 2005-06 and 2006-07



Source: [MDBC, Natural Resource Management, Archived Weekly Reports](#)

SOUTH AUSTRALIA'S RIVER MURRAY ENTITLEMENT FLOWS

Water entitlement flows aim to meet the needs of users of water and to maintain the river's health and natural environment. South Australia receives an agreed amount of water from the River Murray as a legal entitlement (security entitlement) and has a very high reliability of supply. The entitlement flow reflects the amount necessary to meet South Australia's water requirements and is ensured by maintenance of adequate water supplies in Lake Victoria. River Murray entitlement flows are highest during the summer months, largely because of the greater water demands of irrigators.

Flows to SA

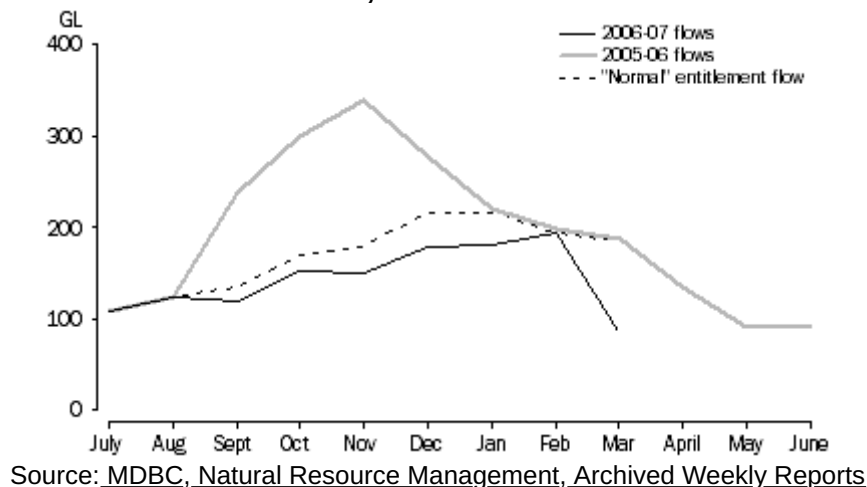
As a result of the continuing drought across the MDB South Australia undertook a reduction of its water entitlement flow by 500 ML/day from 1 September 2006 [MDBC, River Murray](#).

System - Drought Update, September 2006. On December 15 2006, the South Australian Minister for the River Murray announced press release that South Australia should receive a minimum entitlement flow of 1,470 GL for 2006-07; this is about 30% below the regular minimum of 1,850 GL. Flows will be kept higher over the 2006-07 summer months when water demand is greatest, and a large cut in entitlement flow will be made for the March to May 2007 period. By the end of February 2007, 174 GL of South Australia's entitlement flow remained to be delivered before the end of May MDBC, Media Release, March 16 2007. South Australia's water entitlement flow for March 2007 was 88 GL, compared with the normal March entitlement of 186 GL.

On 12 January 2007 it was announced that the Acting Prime Minister and the Premiers of South Australia, Victoria and New South Wales had agreed to the immediate implementation of River Murray measures that would ensure the critical demands of urban areas, towns and other households reliant upon River Murray water. These measures include lowering the target end of season reserves in Lake Victoria, reduced minimum flow targets, early pumping to build reserves in Mt Lofty Ranges storages, and disconnecting selected permanent wetlands that are artificially inundated Media release - Joint Media Statement - Water contingency planning in the southern Murray-Darling Basin.

Water entitlements and actual flows of River Murray water to South Australia for 2005-06 and 2006-07 are shown in Graph 7. The significantly higher flows between September and December 2005 are seen to correspond with near capacity volumes of water in Lake Victoria (refer Graph 6) that allowed for greater than entitlement flows to occur.

Graph 7. SOUTH AUSTRALIAN MONTHLY RIVER MURRAY WATER ENTITLEMENT AND FLOWS, 2005-06 and 2006-07.



THE CAP AND RIVER MURRAY WATER ALLOCATIONS FOR SOUTH AUSTRALIA

In July 1997 the Murray-Darling Basin Ministerial Council (the "Council") confirmed a permanent Cap on MDB water diversions. The Council defined the Cap as the volume of water that would have been diverted under 1993-94 levels of development. For reasons of equity, the cap may be adjusted for certain developments that occurred after 1993-94. South Australia's Cap is slightly greater than the diversions for 1993-94 because of high security entitlements MDBC, The Cap Brochure, 2004.

The Cap does not attempt to reduce basin diversions, it merely prevents them from increasing. New developments can occur provided that their water needs are met by improving water use efficiency or by purchasing water from existing developments.

In early 2004, the South Australian Department of Water, Land and Biodiversity Conservation (DWLBC) implemented a drought response strategy using the draft *River*

Murray Drought Water Allocation Policy to provide advice to the High Level Taskforce on the River Murray and the River Murray Drought Liaison Committee. These bodies make recommendations to the South Australian Minister for the River Murray on the appropriate level of allocations of the Cap for South Australian River Murray water users. The operating version of the Policy was published in January 2006 DWLBC, South Australian River Murray Drought Water Allocation Policy, 2006.

South Australian allocations for irrigators were reduced from 80% of the legal entitlements to 70% in mid-October 2006, and a further reduction to 60% was made on 2 November 2006. On 15 December 2006 the South Australian Minister for the River Murray said that "the 60% allocation figure should be sustainable but it will be necessary to micro-manage the river and inflows over summer and evaporation of storages must be closely monitored".

Irrigation allocations have also been significantly reduced in NSW, where both high security and carry over allocations were reduced by a further 32% on 2 November 2006, after a 20% reduction in October. Victoria, which has adopted a different strategy in water allocation, has not reduced allocations MDBC, River Murray System - Drought Update No. 5, December 2006. Nevertheless, both NSW and Victoria are planning an early end to the 2006-07 irrigation season to ensure internal losses within the distribution systems of irrigation districts remain within target levels MDBC, River Murray System Operational Update February 2007.

OUTLOOK FOR THE FUTURE

The following section provides a summary of the outlook for the future as reported by the various agencies that have responsibility over the Murray-Darling Basin/River Murray system:

Rainfall in the MDB 2007-08 MDBC, River Murray System - Drought Update No. 6, February 2007

The Bureau of Meteorology advised that the current El Nino is beginning to weaken and that the rainfall outlook for February to April 2007 (inclusive) is for a 55% to 60% chance that rainfall in the Basin would be above the median. Nevertheless, catchments are extremely dry and flows into streams in the higher yielding upper catchment areas have virtually dried up. Consequently, rainfall would need to be well above average in order to produce average inflows to MDBC storage reservoirs, and inflow conditions throughout 2007-08 would need to be at a level experienced (over the long term) in only about one year in ten in order to raise storage to near average levels.

Flows and allocations 2007-08 MDBC, River Murray System - Drought Update No. 6, February 2007

Currently, flows in the River Murray are being maintained to meet diversion requirements and the requirements for transfer of water to Lake Victoria. South Australia's revised allocation of 60% of licensed entitlement should continue as there has been no significant increase in water available to the States for 2006-07. If the 2006-07 dry conditions are repeated in 2007-08 new minimum flow rates could be implemented and it is likely that there would be just enough water to meet the critical water needs of all towns and cities that rely on River Murray water. Recent announcements by State water agencies have indicated that the opening irrigation allocations for 2007-08 would be zero, Seasonal improvement in irrigation allocations will very much depend on rainfall to the end of spring (the start of the irrigation season).

Water Proofing Adelaide

As part of South Australia's Strategic Plan of 2002 the SA Government recognised the need to address challenges to water supply. In October 2003 a 20-year water strategy, [Water Proofing Adelaide A thirst for change 2005 - 2025](#), aimed at management of existing resources, responsible water use, and developing additional water supplies, was launched. The importance of this strategy was emphasised by the dry period of 2002-03, coupled with the on-going drought in the Murray-Darling Basin, when Adelaide's Reservoir supplies and the River Murray flows were reduced and water restrictions were introduced in South Australia from 2003.

Water Proofing Adelaide plan aims to provide sufficient mains water to meet Adelaide's needs beyond 2025 (even in drought years) without putting higher demands on the River Murray.

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